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Clinical Medicine and Surgery

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Leading Articles

Appraising and Minimizing the Hazards of Prostatectomy
By Clarence Martin, M.D., St. Louis, Mo.

Aluminum-Potassium Nitrate in the Treatment of Chronic Suppurations, Especially of Bones
By Max Thorek, M.D., Chicago

Clinical Significance of Acidosis
By William G. Parker, M.D., Mt. Vernon, Ill.

Feeding the Cancerous Patient
By Charles J. Drueck, M.D., F.A.C.S., Chicago

Pelvimetry
By Edmund Lissack, B.Sc., M.D., Concordia, Mo.

What the Individual Physician is Entitled To
By J. Lewis Webb, M.D., Chicago

Surgical Complications
By B. F. Croutch, M.D., Chicago

Vincent's Infections
By L. J. Moriarty, D.D.S., Watertown, S. D.

Editorials

Dr. Richard Bright
The Vitamins
Dining or Stoking the Engine?
Everyday Therapeutics
"Bellyaching"

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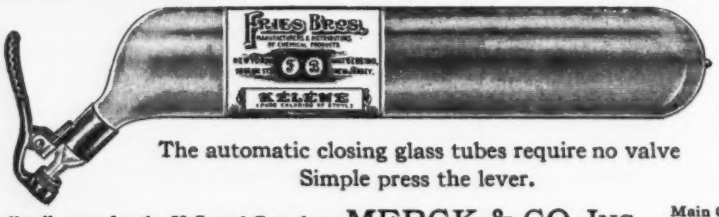

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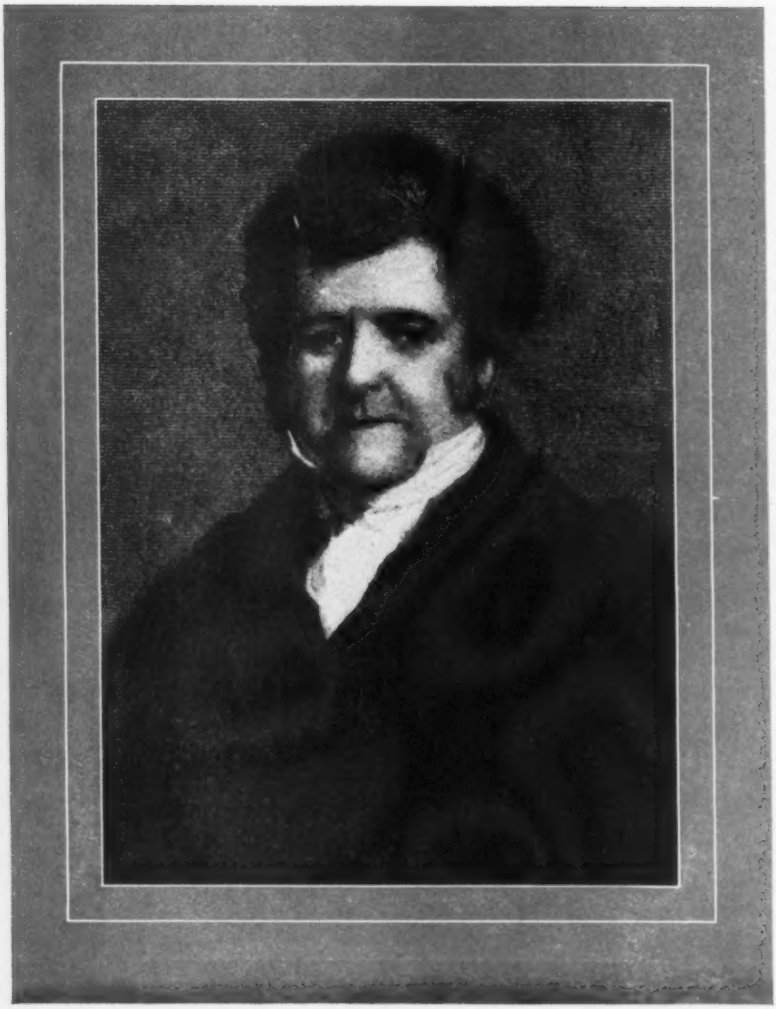

RICHARD BRIGHT, M.D., F.R.C.S., F.R.S.

UNIV. OF MICH.

CLINICAL MEDICINE AND SURGERY

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Dr. Richard Bright

IT IS said that if a man should carry his arm in a sling for a few months he would lose the use of that member. We, who are carrying our five senses in a sling composed of microscopes, laboratory reports, roentgenograms and the like, would do well to remember that "from him who hath not (read, 'doth not use'), shall be taken away even that which he hath."

It is well for us that our forefathers in Medicine were *observers*, else had we found no foundation upon which to build the towering edifice of modern medical science, of which we are so proud.

Among those observers was one whose name is upon the tongue of every physician almost daily, but who, because he was modest and unobtrusive, is almost unknown to us.

Richard Bright, who was named after his father, a prominent banker of Ham Green, Somerset, was born in Bristol, England, September 28, 1789.

Richard attended a private school near his native town for several years and afterward went to Exeter.

There is no record that he did anything phenomenal in his earlier years, but he must have acquired a taste for scientific studies because, when he went to Edinburgh, he took up anatomy; and his reports on the flora and fauna of Iceland were made a part of the report of Sir George Steuart MacKenzie's expedition to that country (in 1810), of which Bright was a member.

On his return from this trip, Richard entered Guy's Hospital, in London, where he studied under Sir Astley Cooper and other celebrities of that day.

In 1812 he returned to Edinburgh and devoted some time to mastering the subjects of geology and general "natural history." He received his Doctorate in Medicine in 1813, presenting a thesis on contagious erysipelas.

The next two years Bright devoted to European travel and *observation*, visiting Holland, Belgium, Germany and Austria and utilizing every opportunity for instruction by the teachers in the various scientific and medical centers. He visited the Continent again in 1818.

In 1816 Dr. Bright became assistant physician to the London Fever Hospital, and, two years later, was promoted to a similar position in Guy's Hospital, of which latter institution he became full physician in 1824, after his election (in 1821) to fellowship in the Royal Society.

From the beginning of his hospital work, Bright was a teacher, lecturing in botany, materia medica and, later, on the theory and practice of medicine. In addition to

this, he was always an eager and conscientious student, and it is reported that he often spent six hours a day at the bedsides of patients and in the necropsy room, seeking for the explanation of morbid phenomena, besides attending to a large private practice.

A thoroughgoing scientist and clinical researcher, he yet had the wisdom to digest his material before offering it for publication, and his first book, "Reports of Medical Cases, Selected with a View to Illustrating the Symptoms and Cure of Diseases by a Reference to Morbid Anatomy," did not appear until 1827; but when it came it was worth waiting for! In it he made the first complete demonstration of the exact relationship between albuminuria, dropsy and disease of the kidneys, so that parenchymatous nephritis has been known by his name ever since that day. His description of the disease is about as accurate and reliable as one that might be written today. All this, remember, was before the days of microscopes and microtomes, and his observations were made solely by means of his trained and directed senses.

Because Bright's name is associated with nephritis, we must not think that he did nothing else of importance. He also carried on pioneer work in connection with pancreatic diabetes, acute yellow atrophy of the liver, Jacksonian epilepsy, status lymphaticus, scarlatinal otitis, laryngeal tuberculosis, cerebral hemiplegias, hydatid cysts and other diseases.

After the publication of his second book (in 1832), Bright was made a Fellow of the Royal College of Physicians. The first volume of the "Elements of the Practice of Medicine," written with his associate, Dr. Thomas Addison, appeared in 1839.

After nearly twenty years of earnest, sincere and painstaking work in Guy's Hospital and other institutions, Dr. Bright had a severe illness, when he was fifty-four years old, and retired from all his public positions, giving such energy as remained to him to his private practice which, at one time, was said to be the largest in London. He must have taken good care of his body for, in spite of the fact that he suffered from a valvular heart lesion for many years, he continued fairly active in his profession until the end, which came on December 14, 1858, he being then in his seventieth year.

Here was a quiet, simple, straightforward, kindly and highly gifted scientist, clinician and gentleman, who deserves a wider fame than has been accorded him. He was, not only a keen and conscientious student and practitioner of his profession, but also made a name for himself in the fields of botany, zoology and geology. In addition to this he was an artist of parts, having drawn and painted practically all the illustrations for his medical books, as well as those for his books of travel, which had a considerable vogue in his day.

His value to the world it would be difficult to estimate; but his service to his profession is well summed up in the words of Sir Samuel Wilks, who said:

"Richard Bright could not theorize and, fortunately, gave us no doctrines and no 'views'; but he could *see*, and we are struck with astonishment at his powers of observation."

The physician who attends many autopsies becomes a keener diagnostician and a safer therapist.—Dr. Harvey H. Beemis.

The Vitamins

NO REASONABLE person would, today, attempt to write a definitive treatise on the vitamins, because the whole subject is in a state of flux and our present ideas may be found, five or ten years hence, to be ridiculously incomplete and, to a considerable extent, erroneous.

There appear, however, to be certain items of information regarding these interesting and vitally important substances, whose validity is reasonably assured; and, as these somewhat mysterious bodies are now being widely discussed, by laymen as well as by physicians, it may be well to

clarify our understanding regarding what we know (or think we know) about them.

The vitamins are complex compounds, whose exact chemical structure is unknown. Some have thought that vitamin A might be a sterol; vitamin C has been procured in crystalline form and "*seems* to be phenolic anthracine quinone." The theory has recently been propounded that irradiated ergosterol *is* vitamin D. This is about the extent of our present knowledge (or the lack of it) regarding their structure. Of their functions we know more.

Experiments have demonstrated that animals fed on a liberal diet of proteins, fats, carbohydrates, salts and water, *from which all vitamins have been excluded,* will die rather promptly and after showing definite changes in their structures and functions. The addition of minute amounts of various vitamins to this ample but lethal diet will enable it to support life and all its activities. Animals fed on *pure* carbohydrates, proteins and fats, *plus vitamins,* will produce all of the complex substances found in the body; but without the presence of vitamins, such syntheses appear to be impossible. Mice fed on *whole milk* live and thrive; fed on all the isolated *chemical constituents* of the same milk, they pine and die.

While the vitamins are now believed to be essential to complete physical and mental integrity, *they cannot be formed in the human body,* but must be *ingested.* They are inherent, extraneous *accessory food factors,* whose presence is necessary to healthy life, growth and reproduction. They are present, in minute quantities, in all natural foods which have not been cooked, canned or otherwise manhandled.

All vitamins are soluble in a mixture of ether and alcohol, and such solutions, made from wheat, butter, egg yolks and various other food substances, have been shown to contain these indispensable accessory factors. All animal fats, *except lard,* contain vitamins; while vegetable fats do not.

Five types of vitamins are now recognized, but more may be discovered at any time. These are known as vitamins A, B, C, D and E or X, and will be described in some detail presently. All of them, *except vitamin C,* will resist any degree of heat encountered in ordinary, brief cooking, the C, D and E or X, and will be described in resistant to heat than was formerly supposed.

Clinically, the vitamins are important, not from their presence, but on account of their *absence* from the diet, a deficiency of each one of them giving rise to certain characteristic symptoms.

Vitamin A is fat-soluble, is lost when exposed to the air for some time and is inactivated by ozone.

Its *functions* seem to be the promotion of appetite, digestion, growth and tissue formation and the *prevention of infections,* especially those of the eyes and respiratory organs. *Its absence* is the specific cause of xerophthalmia and is probably a factor in the production of rickets. Those who are deficient in this vitamin tend to be physically weak, underdeveloped and dull and to fall an easy prey to infectious diseases and lymphoid hypertrophies.

It is present in practicable quantities, in whole milk, butter, cheese, egg yolk, cod-liver oil, glandular organs (liver and kidneys), green leafy vegetables, *yellow* corn and sweet potatoes and in carrots.

Vitamin B is soluble in water and in alcohol. It is dialyzable and will stand a considerable degree of heat (150°C. or more) without damage.

Its *functions* are somewhat like those of vitamin A, with especial stress upon the stimulation of metabolism, protection from organic nerve diseases (it is known as the *antineuritic* vitamin) and the improvement of the milk supply of lactating women. Its *absence* gives rise to beri-beri, neuritis and atrophy of lymphoid tissue. Deficiency causes general debility and enlargement of the endocrine and other glandular organs.

The best *sources* of this vitamin are: whole-grain cereals, milk, beans and peas, vegetables and egg yolk.

Vitamin C is the most delicate of them all. It is soluble in alcohol and is easily destroyed by cooking, canning or drying.

Its *functions* seem to be general regulation of the body's functions and the prevention of *scurvy* (it is known as the *anti-scorbutic* vitamin). Its *absence* results in scurvy or fatal syncope; while a deficiency causes general irregularities of the heart, respiration, digestion and psychic functions, a tendency to hemorrhage, necrosis of the tooth pulp and friability of the bones.

Vitamin C is found in the fresh juices of all citrus fruits (oranges, lemons, grapefruit, etc.); in most fresh fruits and vegetables and, to some extent, in cooked tomatoes, potatoes and "greens"; and in milk, *when the cows are on summer pasture.*

Vitamin D is soluble in oil and alcohol and resists heat well. It is ultimely associated, if not identical with, *irradiated ergosterol.*

The *functions* of this vitamin are the regulation of the metabolism of calcium and phosphorus. It is called the *antirachitic* vitamin. In its *absence, rickets* and bony deformities occur.

It is present, in nature, in cod-liver oil, egg yolk and whole milk; and may be developed in any food substances containing sterols (most fatty foods) by irradiating them with *ultraviolet rays.*

Vitamin E or X, the most recently discovered, has not been at all fully studied. It is fairly stable to heat and exercises an important influence over the reproductive functions. It is probably also concerned in the metabolism of *iron.* Its *absence* results in *sterility* in all animals studied.

Wheat germ seems to be the chief source of vitamin E, and it is also found, to some extent, in all whole-grain cereals, whole milk and in many green vegetables.

It seems probable, at this time, that another vitamin, concerned in the prevention of *pellagra,* may be the next discovery in this line; in fact, Goldberger is said to have found such a vitamin in yeast, calling it, tentatively, vitamin PP.

With the information here presented, any physician should be able to give his patients sound advice regarding a diet which will contain all of the essential vitamins in adequate quantities.

The real fight for American agriculture is being fought in the laboratories of our colleges.—O. H. Cheney.

Dining or Stoking the Engine?

A STORY is told of a German Army officer, in prewar days, who encountered a soldier going somewhere in a hurry and questioned him as to the cause of his haste.

"Sir", replied the soldier, with a smart salute, "I am on my way to dine."

With a heavy scowl the captain put him in his place:

"The Kaiser dines; I eat; but you devour your forage (*du frisst*)."

Behind this bit of rudeness lies material for consideration.

The animals gnaw, munch or guzzle the provender which is given them for one purpose, and one only — to repair tissue waste and supply themselves with energy for their various activities. They do this without consideration or manners, and their selection is based solely upon what we thoughtlessly call instinct.

Savage man satisfies his hunger in much the same fashion; but, with the beginnings of civilization, personal discrimination in the selection of food appears, and, as we draw farther and farther away from barbarism, we become more and more "choicy" about what we eat.

The glutton, who lives merely to gratify his palate, has been condemned as a person whose courses of action are wholly unworthy of emulation. Is he, however, any more of a savage than the man who eats solely to live?

There are times in the lives of most of us when the pressure of circumstances compels us to conserve valuable minutes by resting our wishbones against the edges of lunch counters and shoveling in fuel to

keep the fires of the body burning about three times as hard and as hot as is necessary, but to brag of this and laud it as a virtue would be about like the pig who was vain of his "table" behavior.

There is a difference between stoking, eating and dining; and that difference is one of the yardsticks by which we can measure a man's place in the scheme of evolution. All living things take nourishment, of one sort or another; but only civilized man dines.

The Greeks, who are rather generally recognized as having attained a degree of civilization superior, in many respects, to that of the present, made a real *art* of dining (they had wine, of course); and the leisured classes of all times have devoted a good deal of thought to this matter.

America is a land of "go-getters"; but the pity of it is that, having "got" the thing we "go" after, so many of us have few rational ideas as to what we shall do with it.

There is some excuse for the man who is driven, by economic conditions, to the point where "luncheon" consists of a "store" sandwich and a cup of alleged coffee. But when the same man has amassed a competence, he is very likely to continue the same or similar gastronomic habits, long after the necessity for them has gone by.

On the other hand, dining does not necessarily imply an expensive array of viands. One can dine upon cheese and crackers, a bit of salad and a *demi tasse* of black coffee; and one can devour caviar, blue-points, squab, a filét, artichokes and all the other comestibles whose names imply opulent living.

Dining, then, is a state of mind and depends more upon spotless (even if ragged) linen and shining glass and cutlery (even if they came from the ten-cent store) than it does upon the actual food.

Still more it depends upon joyous and congenial companionship and sufficient leisure to appreciate the full savor of a clever anecdote or a tasty mouthful. Few persons ever take the time to find out that a crust of brown bread, thoroughly masticated, has a really delicious flavor.

Until we do more dining and less stoking, even though we ride in foreign motor cars, wear ermine and support a personal bootlegger, we are no more than tyros in the art of gracious living.

It is how we continue to function in the world, not what becomes of our carcasses, that really counts. —W. T. Grant.

Everyday Therapeutics

WHEN the young physician of today finishes his internship and is ready to offer his services to the public, he is usually satisfactorily equipped to do a laparotomy, make a Wassermann test or a blood chemistry study, interpret an electrocardiogram, diagnose a case of pellagra, Hodgkin's disease, pernicious anemia, ectopic pregnancy and various other disease states which are chiefly interesting because of their comparative rarity; but what does he know about the management of corns and bunions, common, old-fashioned belly-ache, "muscular rheumatism," "catarrh of the stomach" and a thousand and one everyday ailments which make up seventy-five or more percent of the ordinary day's problems of the practitioner?

The modern medical curriculum is so crammed with the newest ideas (many of which will, in ten years, be found to be erroneous) and with smatterings of specialistic details and laboratory research, that there is no time to "waste" on the common, ordinary ills of life, which any physician is supposed (God knows why!) to be able to manage satisfactorily by the light of some aura which will exude from his intellect as soon as he is entitled to write the magic letters, M.D., after his name.

Our fathers (and some of us) had a rather different training. We went to college, of course, but we also "read medicine" and "rode with" a preceptor—an old,

experienced physician—and we saw, at first hand, how he dealt with the small and middle-sized ailments of his patients, old and young. We gained a type of practical knowledge which the schools do not, and never can, exactly, give.

Right now the medical periodicals are publishing too much "high-brow stuff" and not enough vulgar, everyday therapeutics. To a certain extent, that applies to CLINICAL MEDICINE AND SURGERY, as well as to other journals. We can publish only the material which is sent to us, and even our contributors (who are exceptionally practical men) have a tendency to make much of the rarer conditions and to overlook the simpler maladies.

Among our readers are many who have seen long and valuable years of rich clinical practice and who have hundreds of sound and worthy ideas about the management of the ordinary physical disorders of humankind. If they could be persuaded to overcome their modesty and reticence they could give us much help with our daily problems. Some are already doing so, thank goodness!

This is a plea to our readers, all over the world, to send us their favorite formulas or procedures—methods that *work*—so that their thoughts and labors may not be lost to the world, but may be put to use by their brothers in the profession.

Let us have more articles, big and little, dealing with common, everyday therapeutics — the diagnosis and treatment of mumps, measles, whooping cough, "sour stomach," "neuralgia," "sore throat," sprains, stone-bruises, coughs, carbuncles, ingrown toe nails and the other "simple little things," by the treatment of which most of us earn a living.

Good English and clean, well typed manuscripts are fine; and they are important — but *ideas* and accurate, carefully kept records are more so. Send us beautiful articles if you can, but send us *practical* articles in any case and, if your writing is decipherable, we will fix them up.

To the patient—and to the conscientious physician, also—there *are* no "little things." How do *you* treat the "little things" that loom so large in the minds of sick folks?

Do unto others as if you were the others.

"BELLYACHING"

THE patients who come to a doctor's office have troubles of their own, or they would not be there; so, also, have his confreres, the lawyer, the minister, the butcher and all the people he meets in professional and social life.

People go to the doctor for help, not alone with their problems of physical disease, but with their cares, worries and fears of all sorts, and people in general somehow expect a physician to be helpful wherever they encounter him.

If we become ill and speak of the fact, we have all heard people say, "What, you ill! And you a doctor!" This is, of course, foolishness. Does the baker never become hungry? Or the shoemaker possess some magic charm against wearing out shoes? Why then should the doctor, who works harder and spares himself less than do most of his friends, be immune to the vicissitudes of the flesh?

But, foolish or not, so long as people react that way and feel that their own maladies are the most important things in the world, the physician, of all people, must be most careful about "bellyaching" to *anybody*. That habit is always distressing; for a doctor it is suicidal.

We must keep up a bold and cheerful front at all times. If we become too seriously ill to go on with our work, we should *go away* to a hospital somewhere, "for a bit of rest". We should never hint to anyone that our business is anything less than flourishing or our lives other than happy and satisfying.

If we hold this attitude steadfastly it is not improbable that our "front" will justify itself. There is some basis in the saying, "As a man thinketh, so is he".

LEADING ARTICLES

Appraising and Minimizing the Hazards of Prostatectomy

By Clarence Martin, M.D., *St. Louis, Mo.*

THE present-day low death rate in suprapubic prostatectomy is not to be attributed solely to the faithful application of a standardized surgical technic. Rather, it has followed upon the ascertainment, evaluation and reduction of the hazards inevitably found in every case, and, in the main, the individual mortality record will accurately reflect the thoroughness with which these hazards are ascertained and interpreted and the skill employed to minimize them.

Whilst technical skill and manual dexterity contribute beyond measure to the safety of a prostatectomy, yet their application fulfills in but minor degree the surgeon's obligation to his patient. The major share of this obligation must be discharged during the drainage period before operation and afterwards, throughout convalescence. Despite the popular conception, the acid test of a prostatectomist's ability does not lie solely in a three minute enucleation, but in his *capacity to recognize and minimize the hazards present in every case.*

These patients rarely die from actual sins of technic. Prostatic mortality, except a very small, inescapable percentage of cases, is due either to one's inability to make a sound preoperative appraisal of the hazards in the case, failure to continue for a sufficiently long period that treatment which is calculated to minimize such hazards, or lack of response to this treatment. In short, the most essential item in successful prostatic surgery is proper pre- and post-operative management.

Cystoscopy

Occasionally cystoscopy may be an unwise procedure, yet it so often gives information of such illuminating character that it should be considered as belonging to the routine examination. It may disclose some pathologic feature that will influence one in the choice of operative procedure, in fact it may develop findings that will put the case into an entirely different category, even to the point of showing the surgeon the wisdom of abandoning his original project. Thus an indifferently considered hematuria may be found to have its source in a malignant tumor of the bladder wall, the more urgent and obvious symptoms of the obstruction masking the graver disease.

A recently observed case in point may be cited: A patient well along in his sixties had a moderately enlarged prostate, mild nocturnal urinary frequency and intermittent hematuria. Lightly dismissing the hematuria, a general surgeon proceeded to do a suprapubic prostatectomy. A bladder-wall growth was the first thing found upon opening the bladder. A preoperative cystoscopic examination would have saved the surgeon the embarrassment he suffered.

Another feature which may be disclosed by cystoscopy and which easily might be overlooked during operation, is a diverticulum. In the occasional instance when other means do not enable the surgeon to decide which operative procedure is best suited to the case in hand, a careful cystoscopic examination will clear up the doubt. Also the presence, position and number of calculi are best determined in this manner. In view of the definite advantages which so frequently accrue from a cystoscopy, one is justified in maintaining that the offered objections to the procedure lack validity.

Age and Psychic Status

The actual age of the prostatic subject has far less bearing on the question of operability than has his relative age. Some prostatics of 75 and thereabouts are younger than others of 60. In evaluating the item of age, one should be influenced by personal appearance and temperament, not by the number of years the patient has lived. A sturdy old man of intelligent and cheerful mien is a delight to the urologist's eye. On the other hand, a broken and dispirited patient whose mentality is in process of decay is a poor risk, regardless of age and other factors of the equation. Such a patient lacks mental stamina and physical vigor. He is apathetic and hopeless and, continuing to lie in bed, invites hypostatic congestion of the lungs.

In these cases of listlessness and depression, it will be found that preliminary drainage, continued over an unusually long period, with removal from the hospital atmosphere to a familiar environment, promotes an improvement in the mental state that will hold the patient in good stead when the time for enucleation has been set. Furthermore, as the patient notes a betterment in his physical condition, the result of drainage and supportive treatment, he will begin to manifest an aggresive reaction toward the necessities of his urinary condition, apathy giving way to a positive will to live.

Whilst the urologist, in estimating the operative risk in the individual case, will hold before him a composite picture of the various hazards which his general examination has shown to exist, yet as his experience extends, he will find his widest angle of concern to be with the cardiorenal system. The most important single item of hazard, one may safely say, resides in the renal function. Also, of the several hazards, this one is most responsive to intelligent and painstaking pre-operative treatment.

Kidney Function

If, as some maintain, the kidneys begin to decline in functional capacity after the age of thirty five, then how widely divergent from normal must be a pair of senile kidneys, subjected for a varying number of years to back pressure and infection.

We may believe that back pressure begins when the bladder, during the urinary act, is forced to increase its expulsive efforts. We may feel quite sure that the phenomena of back pressure definitely exist when a residuum of urine is present. One needs but to examine the widely distended ureters in a case of long continued back pressure, caused by obstruction at the vesical neck or beyond, fully to grasp the mechanical principles involved. Little by little this back pressure becomes more and more a factor to be reckoned with by the kidneys. They become dilated and their function is carried on under a progressively increasing handicap. In a considerable number of cases there is a pyelonephritis, either aseptic or septic, coupled with which may be found evidences of interstitial nephritis. That the functional offices and capacity of the organ also are involved is, of course, clearly shown by the various chemical and functional tests.

Frequently, and depending upon the length of time over which the kidneys have been forced to carry their increased burden, the urine is greater in quantity and lower in specific gravity than normally is the case. Also it will probably contain a varying amount of pus, albumin and casts. Consequent upon the impairment of renal function there is disturbance of nitrogen metabolism, as evidenced by the increased nonprotein nitrogen content of the blood. Since a purpose of preliminary drainage is to raise the index of renal functional capacity, the surgeon, during this period of drainage, will watch with careful eyes for evidences of improvement, as manifested by a reduction in the nonprotein nitrogen content of the blood and an increase of the phenolsulphonephthalein percentage in the urine, and not until both have become stabilized, indicating the peak of possible improvement in the functional capacity, is one warranted in removing the gland.

To me, the degree of **polyuria** in these cases is always a matter of grave concern. Due to interstitial nephritis, polyuria may presage imminence of renal failure. In fact, at times the phenomenon is a last flickering signal before fatal suppression ensues.

From time to time, patients are sent to the hospital for a prostatectomy with what is held to be the reassuring information that they are "passing large quantities of clear urine without albumin or casts". After these patients are gone over and their findings checked up, it will be ascertained that there is a large urinary residuum;

that during the 24 hours, they are passing 2500 to 3000 or even more cubic centimeters of clear, limpid urine with a specific gravity of 1003, 1004 or 1005, with a low urea output and an elimination of phenolsulphonephthalein of around 25 or 30 percent. Even with the age of the patient taken into consideration, the nonprotein nitrogen retention in the blood is unusually high. Otherwise, the patient appears to be a splendid risk and by many physicians, not trained or interested in urology, would be accepted as such. Falling into this category are those cases that "inexplicably" die after one-stage prostatectomy or even a precipitate cystotomy. The renal hazard has proved too great, and yet, a short period of drainage easily might have reduced it to a surmountable degree.

Judicious Bladder Drainage

That the damage inflicted on the renal function by back pressure is not always permanent is demonstrated by the tremendous improvement which, at times, may take place under drainage. But it must be remembered that it is not only drainage that is needed in these cases but *judicious* drainage.

Unfortunately, a large part of the general profession has gained the impression that the performance of a prostatectomy in two stages makes it a fool-proof operation. This dangerous dictum has had the effect of minimizing the importance of slow and carefully regulated catheter drainage before the cystotomy is done. In all truth, the safest prostatectomy is a *three*-stage operation. The immediate emptying of a chronically distended bladder unquestionably enhances the renal hazard. Slow drainage through a catheter fastened in the urethra, regulated so as to empty the bladder in not less than seventy-two hours, thus gradually relieving the intra-vesical and intra-renal pressure and offering protection against edematous swelling of the secretory cells of the kidney substance, prepares the patient for the socalled first stage. These seventy-two hours under catheter drainage easily may be the most essential period of the patient's stay in the hospital. The proper use of this period, even though it involves no more than the systematic removal of a cork from the catheter, permitting a few ounces of urine to trickle out, means much to the patient and may make as great a contribution to his welfare as an expeditiously performed prostatectomy several weeks later.

In the very nature of things there can be no hard and fast rule to determine the length of the period over which preliminary drainage should be continued. The best plan is to disregard the time element entirely and to continue drainage just as long as there is increasing improvement in the renal function and general health. When the peak of improvement has been reached, as determined by nonfluctuating values of laboratory and other procedures, the day for operation is at hand. In most cases the period necessary to reach this peak is at least ten or twelve days. It may be two months.

Forcing Fluids

Since the majority of these old men have been dehydrated and show evidences of an accumulation of waste products in the tissues, the wisdom of forcing fluids during the drainage period is obvious. The mouth and tongue are dry, even parched. The function of the kidneys has become perverted. There is no longer a healthy balance between the formation of nitrogenous products of waste in the tissues and their excretion by the kidneys. Accummulation takes place. The kidneys permit an excessive quantity of the watery constituents of the blood to filter through but hold back nitrogenous products. The urgent need is for a diluent and diuretic, than which there is none better than water. Water from the public main serves these purposes just as well as the widely advertised bottled waters. However, patients will drink more freely of the latter, due to the widespread lay belief that these bottled waters possess superior virtues. Since the diluting, diuretic and flushing properties of such waters are equal to those of ordinary tap water, I pretend to share with the patient in the myth. During the period of forcing fluids it is advisable to alkalinize the tissues, as an additional insurance against acidosis.

Heart Hazards

No estimate of the hazards of prostatectomy is complete without the inclusion of full information regarding the cardiovascular system. In the case of a poorly compensated heart lesion, obviously the risk is grave and the better part of wisdom is to palliate the patient's condition by

means of the catheter, even though self-introduced. It is extremely doubtful if operation should be attempted, even under parasacral anesthesia, for quite likely the burden of operation will be a stress the already staggering heart cannot stand up under.

A well compensated lesion needs not contraindicate operation, but the flabby, irregular heart, not infrequently met with in a series of these cases, is a hazard that gives the careful man much concern. Occasionally a convalescing patient, while making apparently satisfactory progress following operation, suddenly dies. Such deaths are very commonly charged to embolism, and in some instances embolism is the cause of the unexpected death, but I believe some of these cases of embolism are, in reality, cases of acute dilatation of a flabby, worn-out heart muscle, precipitately subjected to an unusual strain.

On the printed page much stress is laid on the advantage of getting the patient out of bed after operation with all dispatch, even on the second or third day, as some would suggest. A commendable purpose lies back of this eagerness to get these old fellows out of bed into easy chairs, but the surgeon who would minimize the flabby heart hazard will not be too urgent in the matter. A tire that has given twenty thousand miles of service may continue to carry a light car over the road, but put it under a heavily laden truck and it promptly blows out. Old peoples' hearts are much like old tires. The management of such cases will include the usual treatment for cardiac weakness, but protecting the heart against the stress of an overload is a *sine qua non* and may be of more substantial service than drugs.

In connection with the heart hazard, the matter of blood pressure will receive its share of consideration. An extraordinarily high pressure will, of course, point to the wisdom of a very cautious conduct of the case; and yet, under drainage, this pressure often drops to a comparatively safe figure. A moderately high pressure does not necessarily add greatly to the gravity of a case, but I look askance at a case of marked *hypotension*. Such a case should be fortified as well as possible against shock.

In minimizing the hazards of prostatectomy, the careful urologist will avail himself of every opportunity to conserve the patient's strength — hoarding instead of squandering. As an instance of squandering strength is the ordering of a brisk purgative on the eve of operation. Instead of enjoying a refreshing sleep, the patient spends much of the night on the bed-pan. The advisable plan is to give the patient gentle laxatives over several days preceding operation, so that when the morning of operation has arrived, the upper bowel is well emptied. Before the patient is taken into the operating room his lower bowel is washed out. A good night's rest before operation is no inconsiderable item to these old patients whose systems are easily thrown off balance. It may be of advantage even to withhold from the patient the exact date of operation, for some of them do not sleep well the night before if in possession of this information.

Anesthesia

Inasmuch as a prostatectomy is never an emergency operation, it should not be performed in the presence of an acute respiratory infection. For all practical purposes, the only respiratory condition that needs be considered as a hazard is chronic bronchitis. During the period of preliminary drainage, properly directed treatment will materially benefit the bronchitis, and under gas-oxygen anesthesia the gland may be safely removed. If the bronchial condition is held to be too much of a hazard under inhalation anesthesia, parasacral anesthesia may be employed. If the gland is a typical adenomatous hypertrophy a very short inhalation anesthesia will suffice.

Resort should be had to every device that will make for the patient's welfare. At operation, if any time is lost, it should be the surgeon's, not the patient's. The surgeon who reckons in these niceties will be and have every thing in complete readiness to begin the enucleation the minute the patient is under the anesthetic. A deep anesthesia is not necessary, in fact quite often the gland may be completely removed before anesthesia is further along than is necessary to secure abolition of sensibility. If an inhalation anesthesia is chosen, the anesthetist should be impressed with the necessity for exercising the utmost frugality in the use of the agent. When ether is being used it should always be remembered that an unnecessary ounce of it may be sufficient to tilt a teetering renal function in the wrong direction.

Shock

Whilst many writers usually assign to shock a conspicuous part among the causes

of death after prostatectomy, yet deaths that may be definitely charged to it have become extremely rare in the practices of urologists. Undoubtedly this is due to the almost universal employment of the two-stage procedure and the more careful and intelligent preparation to which the patient is subjected during the drainage period. The occurrence of shock unquestionably is related to the duration of anesthesia. The separation of the two essential procedures into stages, the first done under local anesthesia, serves one of its most useful purposes in obviating the need for a long-continued, general anesthesia in the second stage when the gland is removed. In this point is to be found an important reason for the relative infrequency of shock in these old men. Other reasons lie in the efforts made during the season of preparation to raise the index of vital forces. When one successfully conducts patients of 80, 85 and even 90 years of age through such a formidable operation as prostatectomy, one must feel that the elements composing shock have been brought under a fair degree of control.

Toward further reducing the hazard of shock one will secure his patient against suffering of whatsoever sort, increase cardiac power, maintain a high level of fluids in the tissues and prevent needless loss of blood. That one may be well on the side of safety it is best to institute anti-shock measures as part of the routine post-operative management of the patient, regardless of his condition when he leaves the table. Better to apply these measures a hundred times unnecessarily than to be late with with them once.

Hemorrhage

While potentially there is always danger of hemorrhage following prostatectomy, yet in actual practice the hazard is small. The removal of a closely adherent prostate may give rise to a profuse hemorrhage. Also an alarming hemorrhage may take place in the instance when the enucleating finger has made a *faux pas* and missed the line of cleavage. Under either of these conditions a continuous and dangerous hemorrhage may ensue unless controlled by one of the means usually employed.

In my early prostatectomies, following the personal teachings of the late Sir Peter J. Freyer of London, I resorted to no other device than that of kneading the prostatic cavity and immediately adjacent structures. However, in more recent years, as is the custom with most urologists, I have used the *Hagner* or *Pilcher bag*. In the majority of cases this simple kneading of the cavity and adjacent tissues, promoting contraction of the tissues and contained vessels, is amply sufficient to minimize the danger of hemorrhage, but the Hagner or Pilcher bag *does* let one sleep. Also this apparatus serves to mould a new channel and to hold loose tags in apposition to the edge of the prostatic cavity. On more than one occasion these loose tags have coalesced with a neighboring raw surface to form a barrier to the outflow of urine, defeating the very purpose of the operation. Objection has been raised against the use of these bags on the score that upon their removal a fresh and alarming hemorrhage may be started. I have never seen this happen. Further, it has been charged that dragging a long piece of tubing backwards through the urethra may introduce infection into the site of operation. This danger may be obviated in large measure by drawing the tube out from the urethra as far as possible and then snipping it off.

Infection

The hazard of infection has, in the main, been minimized by immunization. In most of these cases a greater or less segment of the urinary tract has been infected. If this has not already occurred as a result of bacterial growth in a stagnant pool of residual urine or by repeated catheterization, it may be expected to take place in the bladder after the introduction of the preliminary drainage tube. The patient thus becomes vaccinated and secures a fair degree of immunity against subsequent infection. Drains introduced into the space of Retzius and on the opposite side of the drainage tube, down to the rectus muscle, further reduce the hazard of infection.

Infection of the prevesical space, under proper drainage precautions, is infrequent; but if it occurs it easily may prove to be of grave import. These aged patients cannot stand infection as younger men can. Such infection needs not be of a fulminating character to be sufficient to cause death.

It happens at times that a flare-up of an old pyelonephritis gives the surgeon much concern. It is the cause of death in a small percentage of cases. If definite abscess formation takes place the kidney must be opened and drained. As a rule, however, the condition does not continue to this

extreme but, after a varying length of time, the exacerbation subsides and the old state of chronic pyelonephritis remains.

A kidney in which are present the phenomena of chronic pyelonephritis and backpressure, the sudden relief of which latter produces an engorgement of blood-vessels, provides a fertile soil for highly increased bacterial activity. These flare-ups of a chronic pyelonephritis must be reckoned with as a serious complication of prostatectomy and prevented so far as possible. Under slow and cautious decompression of the handicapped kidney they will not be met with so frequently as in those cases subjected to an immediate release of intrarenal pressure.

Missouri Building.

Aluminum-Potassium Nitrate in the Treatment of Chronic Suppurations, Especially of Bones

By Max Thorek, M.D., *Chicago*
Surgeon-in-Chief, The American Hospital.

IN THE discussion of a problem in the *Seminar*, Clinical Med. and Surg., Dec., 1928, reference was made to the aluminum-potassium nitrate method of treating rebellious bone infections. This matter aroused so much interest among the readers of the journal and so many inquiries have since been made respecting it that it seems desirable to expand the remarks regarding the method then made, and to disseminate as much as possible a knowledge of this mode of treating chronic infectious processes.

From my personal experience it can be said without the least hesitation that the results from this method, in osteomyelitis and kindred conditions, have far outrun my most sanguine expectations. For many years, previous to the adoption of the aluminum-potassium nitrate compound method of treatment, I, like most other surgeons, frequently experienced nothing but keen disappointment from the methods in vogue for the treatment of old, chronic suppurative processes, especially of the bones. In fact, such cases are among the most hopeless coming to a hospital.

Prior to the adoption of the aluminum-potassium nitrate treatment, patients with long-standing bone suppurations were often practically doomed to an invalidism ended only by death, besides the economic loss due to hospitalization and cessation of active employment. Surgeons generally could do very little for such patients. It is, however, unnecessary to dilate on this point, since almost every practitioner and every hospital surgeon is fully aware of the woeful picture presented by chronic bone and other infections.

The Search for an Improved Method

The aluminum-potassium nitrate compound method was the result of many endeavors to find a better way to deal with these cases than those in vogue, even including the improved germicidal methods brought to light by the World War. Much experimental and clinical work was necessary before the success of the new method was fully assured. The method was first clinically applied in the American Hospital, Chicago, in 1922, since which time many hundreds of patients have been treated, with an exceptionally high percentage of clinical cures or marked improvements; and ample experience has accumulated which leaves no doubt in regard to the value of the method in almost every type of deep, chronic suppurative process.

The use of potassium nitrate, as an oxidizing agent, was known in the arts and to a very limited extent in therapeutics. It is used extensively in the "brine" employed in the meat preserving industry.

In therapeutics, however, the good effects of potassium nitrate were marred by the great irritation and sloughing of tissues which it produced which, as well as the maceration of normal tissues in the vicinity

where it was employed, renders its use impractical. My experience, in these respects, coincided with that of others and I found that reducing the dosage, to an extent that reduced the irritation, also reduced the curative effect to such a degree as to be of little value. To obtain the maximum therapeutic effect with the minimum of irritation it became evident that some agent must be combined with the potassium nitrate and finally, after much experimental research, it was found that aluminum nitrate, itself astringent and non-irritant, was ideal in inhibiting pain while not interfering with the oxidizing action of the potassium nitrate. The method by which the double salt, aluminum-potassium nitrate, was finally evolved was described in the writer's original article on this subject in *Annals of Surgery*, Jan., 1923, and from this description anyone competent to do so can prepare it.

In a few words the method may be summed up as one by which the nitrates of potassium and aluminum are combined in the proportion of the molecular weight of one molecule of aluminum nitrate to three times the molecular weight of one molecule of potassium nitrate. These are dissolved in hot nitric acid and a double salt crystallizes out on cooling, which contains 31 percent aluminum nitrate, 44 percent potassium nitrate and 25 percent water of crystallization.

Aluminum-Potassium Nitrate is Not a Germicide or Antiseptic

Here it should be said at once that the aluminum-potassium nitrate compound is not what is ordinarily understood as a disinfecting or germicidal agent. Experimental investigation, as a matter of fact, showed that, instead of possessing antiseptic and germicidal properties, it actually assisted and intensified the growth of bacteria when added to culture media. Its biologic action is not exerted in the same manner as that of ordinary germicides. The exact action can only be surmised from a study of the clinical effects, verified in many hundreds of cases. From this study it appears that the compound *acts by dialysis through the skin* to the deeper affected tissues and calls forth an increased leukocytosis or other marshalling of systemic defences against a localized disease process. Clinically this is manifested by a voluminous discharge of pus. As a hypothesis it is assumed that the nascent oxygen produced in the tissues on dialysis of the aluminum-potassium nitrate helps or brings about a systemic reaction against the localized infectious process, with the result that there is a rapid autolysis and liquefaction of the pathologic products within the diseased area. The nascent oxygen does not, apparently, affect the healthy tissues. In all cases there is an increased local leukocytosis, which is probably one of the principal biologic agents causing autolysis in the diseased tissue. The biologic action will be more apparent by observing the results.

Clinical Effects

Within 12 to 24 hours following the application of an aluminum-potassium nitrate dressing (in the manner to be described) to the skin over an infected area, such for instance as an old, chronic osteomyelitis with sinus formation and a thin serous discharge, this thin discharge will be found replaced by a marked, purulent discharge, containing innumerable leukocytes and tissue shreds, although no reaction may yet be apparent on the skin. If the aluminum-potassium nitrate dressing be discontinued, the foul discharge subsides and soon resumes its original serous character.

Within 48 hours, an erythema appears over the area affected by disease, which is soon followed by the appearance of vesicles and pustules, these vesicles being confined to the skin covering the underlying suppurative area. *This reaction continues as long as infection persists in the underlying tissues, and when the pathologic process is cured this reaction will cease.* No such vesicular reaction is observed when an aluminum-potassium nitrate compound dressing is applied to the skin over an area of normal tissue. The reaction is particularly marked over an osteomyelitic area and the application of the dressing is, not only of therapeutic, but also, to a great extent, of diagnostic import. (Fig. 1).

The vesicular and pustular formation is probably the result of stimulation of the latent bacteria into marked activity. The increased bacterial count of the exudate during the initial period of treatment soon, however, *becomes coincident with reduced virulence and vitality of the bacteria,* which is one of the characteristics of the aluminum-potassium nitrate treatment. This may be best expressed by saying that in-

Fig. 1.—Cutaneous reaction in aluminum-potassium nitrate therapy.

creased propagation is accompanied by an increase in the potency of the systemic resisting agencies, especially leukocytosis and phagocytosis; the action is much the same, apparently, as the natural systemic reaction against an acute infection, but it is manifested more rapidly and is confined to the site of application of the aluminum-potassium nitrate dressing.

Clinically there is also a marked improvement in the general condition of the patient, which is ascribed to the rapid decrease and local elimination of bacterial toxins from the blood-stream, resulting from the rapid autolysis and voluminous purulent discharge. The eliminating organs are relieved of the task of disposing of the products of the localized infective agents.

I consider that the decreased virulence and vitality of the organisms, in proportion to their increased propagation, is perhaps the most significant phenomenon of the aluminum-potassium nitrate treatment of chronic infectious conditions. It is evident that, whatever be the exact mode of action, it is different from that of germicides or from the inhibitory effect of agents such as the dyes; the method is therefore a *cultural* method, as the body of the patient is the host for cultural propagation of the invading organisms; it may be somewhat akin to Calmette's attenuation cultural vaccination method, in which the tubercle bacillus, by successive cultures, entirely loses its virulence.

Aluminum-Potassium Nitrate Non-Toxic

Extensive animal experiments have shown that the aluminum-potassium nitrate compound is entirely non-toxic when administered orally, subcutaneously, or intravenously, and even employing a dosage much higher than the therapeutic dosage used externally. In none of the large series of cases treated in the American Hospital by this method were any toxic phenomena ever observed.

Technic

For the general practitioner the most important matter is the technic of the employment of aluminum-potassium nitrate compound. Fortunately this is simple, requiring no special knowledge nor any special apparatus.

The technic consists in applying a plastic dressing directly over an affected area. This dressing is composed of a vehicle into which the aluminum-potassium nitrate compound is incorporated. Ordinary rolled oats, sterilized in an autoclave for 2 hours under fifteen pounds pressure, is used as the vehicle. The method of preparing the double nitrate compound has already been mentioned. When the oats are sterilized, about 50 cc. of boiling water are added to each ounce of dry oats and stirred to a homogeneous mass, after which the nitrate compound is added and the mass again stirred. About 13 grains of the nitrate compound are added for each ounce of dry oats.

The dressing is applied about 1/8 inch thick, *directly to the skin*, well beyond the limits of the affected area, and is covered with some waterproof material, such as wax paper, gutta-percha, etc. *This covering is important* because, if omitted, the dressing will harden, solidify and shrink from skin contact.

The dressing should remain in absolute skin contact continuously and be changed as often as it becomes saturated with the exudate, but in any case at least once in 24 to 36 hours. No gauze should be interposed between the dressing and the skin.

The definite dosage of the aluminum-

potassium nitrate compound, per ounce of oats, cannot be given, as the sensitiveness of individual patients varies. The safe procedure is to start with a small dose (say 5 grains) and keep on increasing it until irritation appears. Some patients will tolerate up to 40 grains per ounce of dry oats.

An aqueous solution of aluminum-potassium nitrate compound, applied in a non-plastic medium, such as a gauze pack, *does not produce any of the typical reactions* or effects as above described; but on the contrary promotes a rapid epithelization of abraded surfaces, apparently resulting from imperfect skin contact preventing dialyzation.

Indications and Clinical Results

Following the experimental work with aluminum-potassium nitrate compound, clinical applications have been carried out extensively at the American Hospital of Chicago. From its inception, in September, 1922, up to the present time, 316 cases have been treated by this method. The clinical results are shown in the accompanying table:

Table

Total number of cases treated	316
Total number of patients discharged cured (this does not include cases still under treatment)	221 (about 70%)
Cases discharged improved	44 (about 14%)
Average duration of treatment	13 3/7 weeks
Age of patients: Youngest 2½ years, oldest 76 years	
Sex: Males 55% Females:	45%

Approximately half of the cases treated were mixed infections, the predominating organisms being the *Staphylococcus aureus*, the *Streptococcus, B. pyocyaneous* and various saprophytes. The lesions treated included osteomyelitis of various grades of severity, both traumatic and hematogenic; bone tuberculosis with secondary infection; furunculosis; gangrene; and various wound and post-operative infections. A large proportion were old and inveterate cases which had resisted surgical and other treatment—cases of the type that are found in every hospital and are the despair of surgeon and internist alike. In some of these cases the indication was frankly for surgery, but the aluminum-potassium treatment, applied as a preliminary to such treatment, was found in very many to give such results that surgery was not necessary.

More detailed information regarding the types of lesions and the results obtained will be found in the writer's other publications on this subject.

For Chronic Cases Only

It should be very clearly understood and it is here distinctly emphasized that the aluminum-potassium nitrate compound treatment is indicated only in *chronic* infections; it is not, in any sense, intended or recommended as a substitute for rational surgery, even in chronic cases, where surgery is clearly indicated; nor is it indicated in acute, fulminating types of infections. It may, however, and, in fact, *should* be used as a pre- or postoperative adjunct to surgery, when surgery is employed for chronic cases, and it should be tried in chronic cases in which surgery has failed to cure. The use of the nitrate compound will shorten the postsurgical course. The method is *contraindicated* in the presence of malignant disease.

I consider that the facts that a great majority of the total number of cases treated became ambulatory patients, able to pursue their occupations, coming to the hospital only for dressing, and that at least 70 percent of the patients (including a goodly proportion of old inveterate cases) were clinically cured, is a sufficient proof of the effectiveness of this method in a class of diseases previously offering little hope to the patients and which condemned them to invalidism or hospitalization for the rest of their lives. When the results are compared with those obtained by surgery, in the past, in the same type of cases, the results are highly satisfactory. Furthermore, the fact that this mode of treatment has given continuous satisfaction during the past six years, to ourselves and to others who have tried it, goes to show that our clinical proof is sufficiently extensive to warrant the efficacy of the method and that it deserves the respectful attention of practitioners who are dealing with this type of chronic suppurative processes. It is at least due to themselves and to their patients that, when other methods fail to cure, the aluminum-potassium nitrate method should be tried.

Conclusions

A method of treatment of chronic, suppurative infectious processes, by applications of aluminum-potassium nitrate compound, is described.

This method is applicable in inveterate cases that have failed to respond to other methods of treatment. Also as a preoperative method in badly infected cases or as a postoperative adjunct in infected cases, whether infection was previous or subsequent to operation.

The method is not to be regarded as a substitute for rational surgery when this is indicated.

Aluminum-potassium nitrate compound is not an antiseptic nor a germicide: it is a definite accelerator of bacterial growth, but by the actions effected in the body's resisting powers, the virulence and vitality of the organisms decrease in proportion to their increase of propagation and the increase in the resistance to them.

Of 316 cases treated at the American Hospital, Chicago, since the inception of this method of treatment in 1922, a great majority became ambulatory patients able to pursue their avocations. Seventy per-cent may be regarded as clinically cured. The cases treated were not selected.

The technic is simple and the medicament employed is non-toxic.

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850 Irving Park Blvd.

The Clinical Significance of Acidosis

By William G. Parker, M.D., Mt. Vernon, Ill.

Acidosis may be observed in a variety of conditions, both medical and surgical. It is not uncommon as a complication in acute infectious diseases, especially in infants and children, in whom it is sometimes rapidly fatal. It may occur in nephritis and in conditions due to faulty diet. It may follow general anesthesia and, as is well known, it is the cause of diabetic coma.

The term acidosis has been somewhat loosely used, and for this reason a brief discussion of the chemistry of the condition is necessary. A general understanding of the chemical changes present in this condition will greatly aid the clinician in the management of his patient.

In acidosis the blood is not acid in reaction, as the term would seem to imply. Such a condition would be fatal, and probably never occurs except in moribund patients. The blood is normally very slightly alkaline in reaction, due to the presence of sodium bicarbonate in the plasma and cells, to the acid and alkaline phosphates of sodium and potassium in the red cells, and in times of physiologic stress, to ammonia, which is formed from protein. These alkali salts act as buffers, protecting the tissue cells by neutralizing fixed acids formed during the process of metabolism, and constitute the *alkali reserve* of the blood.

A strict interpretation of the term "acidosis" means that there is a reduction in the alkali reserve—a change in the hydrogen ion concentration—of the blood, a reduction in the carbon dioxide combining power, and other changes which will be discussed presently. These changes are due to a disturbance in the acid-alkali balance.

Hydrogen Ion Concentration

All acids contain hydrogen. When an acid is neutralized, hydrogen is displaced and its place taken by a metal or base. Some weak organic acids, such as acetic acid, have some of their hydrogen atoms so bound up in the molecule that they are not displaced. The H of the COOH group is displaced, but not the H of the CH_3 group. Such an acid does not have the dissolving action of a mineral acid, and yet it will neutralize as much N alkali as will the mineral acid.

The real strength of an acid depends upon the contained hydrogen atoms or ions and the degree to which its molecule will undergo dissociation. Hydrogen ions exert an action known as catalytic; that is, they have the power to accelerate reactions, such as the splitting of cane sugar into glucose and levulose, which would otherwise proceed very slowly[1]. A meas-

1.—Macleod: "Physiology and Biochemistry in Modern Medicine."

urement of the hydrogen ions in a solution is the index to its real acidity. This measurement constitutes the *hydrogen ion concentration*, and is designated by the sign pH.

There are both electro-chemical and chemical indicator methods for determining this concentration. The hydrogen ion concentration of the blood is normally very constant, standing at 7.4, only slightly less than that of pure water. This equilibrium is maintained through the action of the alkali reserve upon acids, through the ability of the kidneys to excrete an acid urine from the alkaline blood (removal of acid phosphate), the elimination of carbonic acid as CO_2 through the lungs, removal of some phosphoric acid through the intestinal tract, etc.

Clinicians have noted that, in severe diabetes, and especially in diabetic coma, symptoms and signs of acidosis are present. Associated with such signs are certain chemical substances in the blood and urine, which are derived from the imperfect oxidation of fats. It was found that, to avert the acidity that threatens in acidosis, fats must be greatly restricted or stopped altogether. The Allen treament of diabetes, which consists of a period of fasting before the resumption of a regular diet, depends partly upon this fact.

The recent increase of interest in the study and treatment of diabetes incident to the discovery of insulin has done very much to bring about a better understanding of ketone-acidosis. "For the thorough combustion of fat in the animal body, a certain amount of carbohydrate must be simultaneously burned. Fat is evidently a less readily oxidized foodstuff than is sugar; it needs the fire of the burning sugar to consume it. If the carbohydrate fires do not burn quickly enough, the fat is incompletely consumed; it smokes, as it were, and the smoke is represented in metabolism by the ketones and derived acids. Such a closing down of the carbohydrate furnaces may be brought about either by curtailment of the intake of carbohydrates, as in starvation, or by some fault in the mechanism of the furnace itself, as in diabetes[1]."

This illustrates the source of this type of intoxication. Without a sufficient metabolization of carbohydrate, oxidation of fatty acids stops at a certain level and there is an accumulation of ketone bodies. These are beta-oxybutyric acid, aceto-acetic or diacetic acid and acetone (dimethyl ketone). When these bodies appear in the blood in excess we have ketone acidosis. When they are excreted through the urine we speak of the condition as ketonuria or acetonuria. It must be remembered that *the blood is not acid in reaction.* There is, however, a decidedly toxic state and there may be a marked change in the pH concentration and other disturbances which have already been mentioned.

Clinical Application

Case 1.—A 9-year old child was seen at the Orphans' and Children's Home. Her parents had been killed in the tornado which had swept through southern Illinois. She had lived with various families and was poorly cared for. A few days after entering the Home she began to vomit. The nurse in charge gave her some milk of magnesia as a purge, thinking the vomiting due to some digestive disorder. The vomiting became progressively worse.

I saw her on the third day of the vomiting. She was in a semi-delirious state, restless and tossing about, gave no attention to anyone about her, refused to eat or drink, and looked very emaciated. Her cheeks were unduly red; her breath was heavy with the odor of acetone; and there was a slight elevation of temperature. This was a plain case of ketone intoxication or acidosis, due in all probability to a state of chronic starvation.

Intravenous administration of glucose (*dextrose*) was unsuccessful because the child could not be held quiet. Therefore a subcutaneous injection was made, the glucose being diluted with isotonic saline solution. Twenty (20) cc. of a 50 percent glucose solution was adminstered in the subcutaneous tissues of the right groin, employing a 100-cc., glass Luer syringe with a catheter attached by means of an adapter, and a long thin needle.

The following morning the child appeared much better; her cheeks were less red and fuller; she lay quietly in bed and took a little oatmeal gruel. Her nausea was much less. Two subsequent injections of glucose in saline solution caused a complete subsidence of symptoms and disappearance of acetone from the urine.

This case illustrates the effect of carbohydrate in relieving the ketone intoxication. Since the patient was unable to retain anything by mouth and was dehydrated, any other type of treatment would have been ineffectual. When she began to take food she was given carbohydrates and bicarbonate of soda, and made a good recovery.

Case 2.—A married woman, aged, 34 was seen on Monday, with the history of continuous vomiting since the previous Sunday, a week before. Her bowels had not moved for six days. Hinkle pills had been vomited when administered. Enemas had been ineffective because the straining incident to vomiting had prevented their retention. The pulse and temperature had been normal until the previous

day, when there was a moderate rise with beginning distension of the abdomen. The urine gave a heavy acetone test, and there was an acetone odor to the breath. Twenty cc. of 50 percent glucose solution was administered intravenously at 8:00 P.M.

The patient slept well that night for the first time in a week, and did not vomit another time. She was able to take some breakfast next morning. The urine still gave a test for acetone, but much less marked. Two more injections of glucose were made on the following days, with complete clearing of the aceturia. The patient proved to be two months pregnant. Corpus luteum was administered by injection into the deltoid muscle daily for several days, and occasionally thereafter. She was duly delivered of a healthy baby.

This case would doubtless have proved to be a "pernicious vomiting of pregnancy" case; and because of the marked onset of the nausea would have been hard to treat. No doubt she had been mildly nauseated, incident to the pregnancy, for some time and had gone on a reduced diet, with resulting carbohydrate exhaustion and fatty acid intoxication. When the body is denied food from outside sources it begins to live upon its own fat—a poor diet in such cases. If there be any unusual condition present, such as an infection, a pregnancy, or other disturbing factor, the metabolism goes wrong and ketosis may develop. In this type of case the glucose-fat balance seems more disturbed than the acid-alkali balance which may later become deranged to a serious extent. When the alkali reserve is good the pH concentration is sufficient to prevent harm in this respect.

Case 3.—A woman, aged 47, had had diabetes for about 2 years, and one year before being seen had been put upon insulin and had been coached by her physician as to her diet and general care. She improved very much but later became careless, broke diet, and was negligent in general.

I was called to her home one night, and found the following conditions: She was unconscious and moaning as though in great distress; the pulse rate was very fast; the temperature subnormal; the abdomen badly distended; the bowels constipated and refusing to move upon the administration of cathartics. She had vomited several times. There was a question in my mind as to whether she might have intestinal obstruction. If so, she was in a dying condition and beyond surgical relief had we been able to transport her 16 miles over terrible roads.

I noted a peculiar odor about the house, but as some score or more of neighbors were crowded about the room this odor was neglected temporarily. Finally the visitors were sent out and a gasoline engine used in generating electric light current was shut off. The room was aired (it was a hot night) and the odor was then found to be coming from the patient and was strong upon her breath. Laboratory tests were not available, but I decided that treatment should be started upon the supposition that the coma was due to the diabetic condition. Some insulin which was on hand was administered and table syrup (dextrose), dissolved in a solution of baking soda (sodium bicarbonate), was administered as an enema.

That night, rain made the roads impassable and further treatment was conducted by telephone. The treatment outlined was continued for three days, when the patient became conscious and recovered, to die, a year later, from a second attack, incident to a diarrhea.

Case 4.—A little girl had a bronchial cold, probably influenzal in nature. On about the third day she began to vomit. Colonic irrigations, glucose-bicarbonate enemas and small quantities of oatmeal gruel sweentened with sugar, by mouth, soon stopped the condition. The urine gave a heavy acetone test.

Ether Ketosis

As is well known, ether is a powerful fat solvent. In general anesthesia, in surgical cases, there is no doubt but it has much to do with the serious vomiting which often follows the use of ether. Surgical patients are often starved and purged previous to operation, and further starved afterward.

It is my practice to have such patients merely miss their breakfast. Either before or immediately after the operation is completed a pint of physiologic saline solution, containing 50 cc. of 50 percent glucose, is given under the breasts or in the axillae. The patient thus gets a quantity of fluid that largely forestalls the thirst upon wakening, and the glucose aids in supplying nutriment and in preventing the nausea incident to the onset of an otherwise threatened ketosis.

I have fortunately not encountered many of the cases of acidosis of the *acid-alkali* upset type. Several years ago I was called to see a little boy who had a temperature of 104°F., without much other evidence of illness. Believing the trouble to be due to a beginning summer intestinal disorder, I prescribed accordingly. An hour later the child died with a rapidly developed edema of the lungs. I have no doubt now that this child had an acidosis of the type first described. A similar case was related to me a few days ago.

Howland and Marriott[2] relate a typical case of this type of acidosis:

"Even when no evidence of disease may be detected to which the acidosis can be referred, acidosis may be found. For instance, a boy of six was suddenly taken ill with high fever.

2.—Howland, John, and Marriott, W.: *Bull. Johns Hopkins Hosp.*, March, 1916, vol. xxvii, No. 301.

Inside of twelve hours he was brought to the hospital with great dyspnea of the air-hunger type. Physical examination was quite negative except for a purulent otitis media. All the tests made indicated acidosis. The bicarbonate of the blood was greatly reduced. The reaction of the blood had shifted markedly toward acidity and yet the acetone bodies in the blood were not greatly increased. The tolerance for alkalies was enormously increased. Though he took, by mouth, 20 Grams of soda, and 6 Grams by rectum without vomiting or diarrhea, no change in the reaction of the urine was produced thereby. But the alkalies had a profound influence upon his condition; his respirations diminished in rapidity and depth, the evidences of acidosis to be obtained by various tests rapidly disappeared and he made an uninterrupted and apparently complete recovery; for he now seems entirely well and has been so for six months."

The toxic action of acetone bodies upon healing is well illustrated in the diabetic. I recently had in charge a boy aged 9 who suffered from severe diabetes. After reducing his fat intake to 29 Grams (he had been taking over 100) he was fairly free from acetone. He had had, for more than a year, a purulent otitis media which had refused to heal, although he was under the care of an otologist regularly. The ear healed within 10 days after instituting a proper diet and the use of insulin.

A woman patient with diabetes had a profuse leukorrhea. Local cautery treatment of the cervix had been decided upon for this as soon as she had made some improvement in her general condition. The leukorrhea ceased and the cervix took on a fairly healthy appearance when the patient was freed of acetone bodies in the urine by proper treatment of her diabetic condition.

Diagnosis

The man in general practice may feel that he cannot make the laboratory tests necessary to identify acidosis. He can if he has the technical ability to make a blood count. Convenient outfits may be secured to test the hydrogen ion concentration of the blood and other fluids.

Indicators used in titration analysis owe their usefulness to the fact that they turn from one color to another when the reaction of the fluid they may be in changes. Different indicators are known to change color at different levels of pH concentration. Fluids to be tested are suitably prepared, sometimes by dialysis through a collodian membrane, using only a few cc. of fluid, and compared with the different indicators.

The tests for diacetic acid and acetone in urine are simple. The clinical tests are simple. Roughly, the reduction in the reserve alkali of the blood may be indicated by the amount of alkali required to alkalinize the urine.

"Normally, 5 to 10 Grams of sodium bicarbonate will render the urine alkaline. In mild acidosis, 20 Grams are required; in severer cases, 30 to 40 Grams; and in extreme cases, 40 or more. In coma, when urine is excreted, it is usually impossible to neutralize the urine or make it amphoteric, no matter how much sodium bicarbonate is used[3]."

Other tests, a little more intricate, are very useful, such as the determination of the CO_2 tension in the alveolar air. This depends upon the fact that normally the bicarbonate of the blood is present in an amount capable of yielding from 50 to 65 volumes of carbon dioxide, which, upon being liberated through reduction of the bicarbonate, is held in the tissues under greater tension than in the blood, and hence finds its way into the blood and is carried to the lungs where the tension becomes low enough for the gas to escape in the respirations. The alveolar air test for CO_2 is an indicator of the extent of reduction of the blood bicarbonate. The interested reader will find all he needs to know in suitable books on the subject.

An important physiologic fact should be noted before closing. Carbon dioxide quickly stimulates the respiratory center, and upon this depends the rapid breathing (hyperpnea) which characterizes acidosis due to reduction in the blood bicarbonate. This sign should be carefully looked for in all cases of *summer diarrheas* in young children. Another sign of some clinical importance is the reduced time such patients can do without oxygen and hold the breath. Normally one should be able to hold the breath forty-five seconds. When in the absence of definite cardiac or pulmonary conditions which may interfere with this, any marked reduction of time is presumptive evidence of acidosis, and when the time is reduced to twenty seconds it may be regarded as positive evidence of the condition. In older children these signs may be easily recognized and will lead to the performance of simple tests to confirm the condition early, when treatment is most likely to help.

3.—Gradwohl and Blaivas: "The Newer Methods of Blood and Urine Chemistry."

Feeding the Cancerous Patient

By Charles J. Drueck, M.D., F.A.C.S., *Chicago*

THERE is no unalterable rule of diet universally applicable to all men. Human beings differ, in health and in disease. Individual measures must always be invoked. Diets also are made up of a large number of essentially individual factors. No dogmatic rule can be laid down, so physician and patient must both try to adjust these various diet factors to the personal needs. Of course, certain basic principles exist with which all physicians should acquaint themselves in order to advise their patients wisely on nutrition problems. There is no matter of hygiene so important as that of nutrition and nothing from which the race suffers so much as from malnutrition.

The cancerous patient's nutrition must be diligently studied, because malignant growths develop much more slowly in well nourished and active individuals than in the anemic and exhausted, and this secondary anemia is a problem with all malignant conditions. Diet undoubtedly is an important part of the study of cancer, possibly even in the origin of the disease (Beebe).

Within recent years two conceptions of the nature of anemia have come into greater prominence. Professor Knud Faber, of Copenhagen, strongly advocates the conception of an intestinal intoxication as the essential factor in the pathogenesis. This is based largely on the close relation of achylia gastrica to pernicious anemia, affording a plausible explanation for the development of abnormal bacterial flora in the duodenum and jejunum, forming toxins with hemolytic and neurotoxic action, which, when taken up by the blood stream, produce the pathologic changes characteristic of pernicious anemia.

There are many features parallel in both primary and secondary anemia, and the above thoughts should be kept in mind in the management of any blood dyscrasia.

Furthermore, the patient's meals, though simple, must be chosen from those foods to which he has been accustomed, with due consideration of a well balanced ration and withholding those substances likely to cause diarrhea or constipation, or which are unpalatable. Thus, for example, limburger cheese, a valuable source of vitamin A, is a very delectable food to one individual and nauseating to another.

The quantity of food is of first importance, for food is fuel. Food is measured quantitatively by means of the calorie. A calorie is the amount of heat required to raise one kilogram of water one degree centigrade in temperature, or four pounds one degree Fahrenheit. A food *portion* is 100 calories; that is, the amount of food which would, if burned, produce 100 calories of heat. A *serving* is usually not more than one portion, but often less. The number of calories in an ordinary serving of food is shown in a table of food values below. In the case of mixed dishes it is, of course, necessary to determine the caloric content by calculation from the formula or recipe.

The average active man requires 2500 calories of food per diem; the average woman, housekeeper, 2200; and the sedentary individual about 200 calories less in each sex. This amount is apportioned for physiologic requirements as follows:

Protein	200
Fat	800
Carbohydrates	1500

All cancer patients suffer with anemia, and the average American diet is woefully deficient in iron. The body loses daily of its precious store of 43 grains of iron, 250 thousandths of a grain. At least this amount must be supplied by the daily food. In cases of cancer, the daily intake of iron should be very greatly increased, to insure a rapid gain over the anemia.

The Iron Content of Foods

The accompanying figures indicate the number of calories and thousandths-grains of iron in one ounce of food. The body requires at least one-fourth (250 thousandths) of a grain.

Legumes

	Calories	Iron		Calories	Iron
Lentils	100	38	Beans	100	31
Garbanzos	100	31	Peas	101	25

Whole Grain Cereals

Rye bran	85	61	Oatmeal	113	17
Wheat bran	70	34	Corn (dried)	109	13
Wheat	100	22	Graham bread	74	11
Rye	100	18	Rice (brown)	100	9

Greens

Dock	17	28	Chard	11	11
Red root	17	28	Turnip tops	17	10
Mustard	17	21	Cabbage	9	5
Spinach, cooked	16	14	Brussels sprout	6	5
Dandelion	17	12	Lettuce	6	3

Nuts and Dried Fruits

Hazel nuts	95	18	Pecans	208	11
Almonds	183	17	Zante currants	90	11
Dates	100	16	Raisins	90	9
Figs (dried)	90	13	Walnuts	200	9
Prunes	86	13	Peanuts	155	9
Hickory nuts	202	13	Chestnuts	114	5

Meats and Eggs

Oysters	14	21	Pork chop	96	11
Chicken	31	14	Mutton	96	10
Steak (round)	54	13	Trout	27	3
Eggs	42	13	Herring	40	3
Liver	36	13	Halibut	29	3
Tenderloin	81	11	Codfish	20	2

Denatured Cereals

Pearled barley	100	9	Hominy	100	4
Wheat flour (fine)	100	7	Corn flakes	100	4
			Polished rice	100	4
White bread	75	5	Rice flakes	100	4
Macaroni	102	5	Cornstarch	102	0
Corn bread	74	4			

Fresh Vegetables

Green peas	21	7	Kohl-rabi	9	3
Potatoes	24	6	Parsnips	18	3
Carrots	13	6	Onions	14	3
Asparagus	6	6	Cucumbers	5	2
String beans	11	5	Turnips	11	2
Green corn	29	3	Sweet potato	35	2
Beets	13	3	Egg plant	8	2
Cauliflower	9	3	Tomato	6	2
Pumpkin		3	Celery		2

Fresh Fruits

Blueberries	21	4	Plums	24	2
Strawberries	11	3	Grapes	27	1
Bananas	28	3	Pears	18	1
Blackberries	19	3	Grapefruit	15	1
Raspberries	19	3	Cantaloupe	11	1
Cranberries	13	3	Apples	18	1
Cherries	22	2	Peaches	12	1
Currants	16	2	Oranges	15	1

Dairy Products

Cheese	125	6	Butter	218	1
Cottage cheese	31	4	Cream	55	1
Milk	20	1	Buttermilk	10	1

Let us select from the above table foods sufficient for three satisfactory meals, breakfast, dinner and supper, setting them down in a column, and opposite, in separate columns, place the number of calories and the amount of iron contained in each portion selected, as in the following example.

Breakfast:

	Ounces	Calories	Iron
1 baked apple	5	90	5
2 slices of Graham bread	5	370	55
2 pats of butter	1	218	1
Oatmeal	1	113	17
Cream with cereal	2	110	2
Eggs (2)	3	126	39
Milk	12	240	12
		1267	131
Dinner (at Noon):			
Milk and cream	6	150	6
Whole wheat bread	5	500	110
2 pats of butter	1	218	1
Meat, Liver	4	144	52
Tomatoes	2	12	4
Carrots	2	26	12
Lettuce	2	26	3
Custard			
		1056	188
4 O'Clock:			
Milk	6	150	6
Supper:			
Meat	4	144	52
Milk	6	150	6
Bread	5	500	110
Butter 2 pats	1	218	1
String beans	4	44	20
Other Vegetables	12	132	60
		1044	249
Total for the day		3517 Calories	574 Thousandths grains

In making up the list of foods from which the day's bill of fare, breakfast, dinner and supper, is to be prepared, as many as possible are chosen from the food groups which are richest in iron. The foods in each group are arranged in order according to their iron content. Where care is taken to select the foods which contain the most iron, there will be no difficulty in arranging bills of fare which adequately meet the needs of the body.

The natural foods richest in iron are spinach and other greens, with gluten bread and other gluten preparations. The popular idea that meat is the richest source of food iron is an error, as will be seen by reference to the accompanying tables. There are more than twenty common foods which contain as much iron as lean beef, while the fat of meats contains no iron at all.

It is not necessary that the diet should be strictly confined to foods rich in iron, but these foods should constitute the staples of the dietary, so as to make sure of an abundant supply of vitamins, iron, and lime and other food salts. When the hemoglobin is low, the iron and lime content of the food should be doubled until the deficiency is made good.

Foods Rich in Food Lime

	Grains of lime per oz.		Grains of lime per oz.
Cheese	5.70	Milk, goat's	0.78
Yogurt cheese	4.28	Sour milk	0.75
Cottage cheese	4.18	Cauliflower	0.75
Red root	3.24	Milk, skimmed	0.75
Mustard greens	3.01	Olives, ripe	0.75
Linseed meal	2.53	Bran, wheat	0.74
Turnip tops	2.13	Milk, whole	0.74
Soy beans	2.00	Egg, one	0.71
Condensed milk	1.84	Lentils, dry	0.66
Almonds	1.46	Maple syrup	0.66
Molasses	1.30	Cabbage greens	0.65
Mountain spinach	1.27	Buttermilk	0.64
Watercress	1.15	Dandelion greens	0.64
Dock greens	1.03	Endive	0.64
Figs, dry	0.99	Cow peas	0.61
Beans	0.98	New Zealand spinach	0.48
Chard	0.92	Wheat germ	0.44
Egg yoke	0.84	Spinach	0.41
Boston br'n bread	0.79		

The prosperity of dentists in all civilized countries is one evidence of the deficiency of lime in the average diet. Sherman, of Columbia University, estimates that half of the population are suffering from lime starvation. This is doubtless the result of the excessive use of food deficient or wholly lacking in lime, such as cane sugar, glucose, fine-flour bread, rice, meats of all sorts, fish and potatoes.

The Vitamins

Jorstad[1] found that feeding with a large amount of vitamin A protected animals to a great extent from the evil effects of skin cancer produced by tarring, and, in a later communication, Burrows et al[2] found a tissue imbalance of vitamins A and B in cancer.

In order to bring the vitamin A content to normal, cod-liver oil, cheddar or limburger cheese, which are rich in vitamin A, should constitute a liberal proportion of the diet.

In the study of the relation of anemia, primary and secondary, to vitamin A deficiency, Koessler[3] concludes that:

1.—The fat-soluble vitamin A is essential for normal blood regeneration.

2.—The addition of vitamin A to the diet of animals long depleted in their vitamin A reserve brings about rapid formation of new blood cells.

3.—A definite relationship exists between a state of chronic vitamin deficiency and certain anemias in man.

4.—The routine use of a rationally balanced diet, rich in vitamins A, B and C, had proved itself of decided value in the blood regeneration of patients suffering from pernicious anemias and is the most promising procedure in the treatment of this disease.

5.—The changes in the bone marrow, blood and intestinal tract are probably due to a chronic deficiency or imbalance in fat-soluble vitamins.

6.—The lesions and symptoms of the nervous system, so similar to the ones found in pellagra, may be related to a chronic deficiency in vitamin B.

7.—The tendency to hemorrhages, retinal or otherwise, may be due to a long standing deficiency in vitamin C.

It may be recalled that such a deficiency in the vitamin content of the tissues might be produced in a variety of ways; first, through chronic underfeeding with these essential foodstuffs; and, second, through long standing infections which are able to deplete the body of its vitamin reserve stock or which interfere with its proper utilization or with the storage power of the organism. A vicious circle may be established through the fact that vitamin exhaustion opens the way to infection and intoxication, through increased permeability of all the protective mucous membranes of the body.

It is natural that faulty dietary habits are more common in poor people, but they are by no means restricted to this class. The average man prefers meat, potatoes, gravy and pie to any other foods, and often considers this the only virile form of a menu. His luncheon and dinner consist mainly of these articles of food. Such a diet is very deficient in vitamins A, B, C, D, and E, and if adhered to, over a period of many years, might well lead to an exhaustion of the vitamin reserve. Nor are women any less guilty of similar mistakes in the composition of their diet. Tea and coffee, hot bread and biscuits and an overindulgence in sweets supplant, too often, a rational choice of foods.

It is not the complete absence of these essential food factors from the daily diet that brings about ill health, but the chronic underfeeding with them over a long period of years. Anemia occurs most commonly in the ages between 50 and 60, often associated with faulty eating over a period of from ten to fifteen years. In periods of stress and of enforced economy in food materials, impoverishment of the organism

of its vitamin reserve might be brought about in a much shorter time.

Dietary Management

A diet rich in all vitamins is insisted upon. Vitamin A is first supplied to the anemia patient by giving cod-liver oil, 5 cc. four times daily. Butter (not oleomargarine), from five to six pats, should be taken daily on vegetables and on bread. Whole-wheat bread, made with milk instead of water, is richer in vitamin A and B than is white bread. Wheat germ, in an alcoholic concentrate, is used as an excellent source of vitamins A, B, D and E and, when it is given in orange juice, all five known vitamins are supplied at once.

Whole milk and cream are valuable foods, since they contain, especially in summer, a good deal of the three vitamins, A, B and C.

Eggs, especially the yolk, are rich in vitamin A and also contain vitamin B.

Vegetables that should be taken daily are tomatoes, fresh if possible, and stewed or canned if not in season. They are a very rich source of vitamins B and C and contain also vitamin A in smaller amounts. Then spinach (A, B), lettuce (A, B, C), cabbage (fresh, raw A, B, C) and carrots (A, B, C). In addition or as substitutes may be eaten: fresh string beans (A, B, C), Swiss chard (A, B), cauliflower (A, B, C), dandelion greens (A, B), or beet greens (A, B), endive (A, C), peas (A, B), sweet potatoes (A, B) and hubbard squash (A).

Fruits should be taken daily to furnish plenty of vitamin C and, to a lesser degree, A and B. The best fruits for this purpose are oranges, lemons, grapefruit, pineapples (fresh if possible), strawberries, raspberries (C), apples (sauce) and bananas. All these are to be eaten fresh if possible.

Of meats, liver and kidneys contain the largest amount of vitamins A and B and also some of C. Sweetbreads and brains, beef heart and lungs stand next in richness in vitamins. Beefsteak or any other part of the skeletal muscle is much inferior in vitamin content.

A valuable list giving the vitamin content of the most common foods has been prepared by Sybil L. Smith, specialist in biochemistry, Office of Experiment Stations, U. S. Department of Agriculture, and may be obtained by writing to the Bureau of Home Economics, U. S. Department of Agriculture, Washington, D. C.

The menu given herewith may serve as an example of the diet to be consumed in twenty-four hours.

Menu for Twenty-Four Hours

Breakfast:

One orange sliced, or one-half grapefruit, or one baked apple with cream, or a dish of applesauce, or fresh pineapple or prunes.

Graham bread made with milk, two or three slices, equal to 40 Gm., toasted.

Orange marmalade or raspberry jam, if desired.

Butter, two prints, 10 Gm. each.

Oatmeal, one dish, equal to 20 Gm. of dry weight (4 heaping tablespoonfuls).

Cream, 20 percent, as much as desired.

Eggs, two, (at least the yolks).

Milk, two glasses, each 6 ounces of milk and ½ ounce of cream. If this quantity of milk is too much if taken at breakfast, one glass can be taken two to two and a half hours later.

Dinner (at Noon):

Milk and cream, 6 ounces of milk and ½ ounce of cream.

Whole wheat bread, made with milk, 40 Gm.

Butter, two prints, 10 Gm. each.

Meat: liver (calf's liver, chicken liver, goose liver, liver sausage) or sweetbreads, or kidney (veal or mutton) or calf's brains or calf's lungs, 150 Gm.

Tomatoes, fresh, stewed or canned, 100 Gm.

Spinach or carrots, 100 Gm.

Lettuce or raw cabbage (cole-slaw), dressing made with oil and lemon juice.

Custard or omelet with jelly (raspberry or orange marmalade) or vanilla ice cream.

At 4 O'Clock:

One glass of milk—6 ounces of milk and ½ ounce of cream.

Supper:

Any of the meats given under Dinner: 100 Gm. of liver, kidneys, sweetbreads, brains, beef-heart, lungs, or 100 Gm. of beefsteak or lamb, or instead of meat, two eggs.

From one to two glasses of milk, 6 ounces of milk and ½ ounce of cream.

Bread, whole-wheat, from 30 to 40 Gm.

Butter, two prints, 10 Gm. each.

Tomatoes, spinach, hubbard squash, carrots, cauliflower, peas, beans (kidney, navy or fresh string beans) sweet or Irish potatoes, beet-tops, Swiss chard, lentils, lettuce. At least three vegetables, from 80 to 100 Gm. of each.

If two glasses of milk cannot be taken with supper, one of them might be drunk before retiring.

It is seen at a glance that this diet does not impose any hardship on the patient. Most of the foods it contains are eaten daily by many people and, in addition, it includes certain meats in the form of the edible viscera which are usually not partaken of at all or only occasionally.

Methods of Administering Liver

The importance of the mixed liver diet as a therapeutic agent has attracted widespread attention since its application has been broadened to include the secondary anemias as well as pernicious anemia.

One of the difficulties of this treatment lies in the capriciousness of appetite so prevalent in these conditions. Even in health, liver is not always a relished dish.

In this connection it may not be misplaced to point out how important it is that such meats as liver and kidneys be prepared in an easily digestible and appetizing manner. To tell a patient with a complete achylia to eat so many ounces of liver a day and let it go at that would frequently invite failure. The most common way of preparing liver is to fry it; if, then, the cook does not know that liver must never be salted while cooking, but only just before serving, since liver, when salted on heating, becomes hard, the liver reaches the patient in such a consistency that it can hardly be chewed and still less digested. Liver and kidney should be parboiled for five minutes and then broiled, (not fried) on both sides, so that the inside of the slice is still somewhat rare.

Cooked liver may be served in any way that pleases the patient, but prolonged boiling is to be avoided. The broth in large amounts is effective. Mammalian liver is possibly more effective for these patients than that of fowls. Kidneys can also promptly increase the reticulocytes and the numbers of red blood cells in anemia, and thus may be substituted for liver.

Raw liver is, perhaps, more efficacious than cooked. It may be given as finely divided liver pulp. Many patients have preferred raw liver pulp to cooked liver, as they look on it more in the nature of medication than a food. This is because it is simple to take and can be rapidly swallowed. We have often prescribed about 180 Gm. of the prepared pulp (about equal to a similar amount of cooked liver) a day, divided into two portions and taken mixed with orange juice or water, at mid-morning and mid-afternoon. This requires the patient to drink only about 500 cc. of the mixture a day. The juice pressed from raw liver is efficacious, in large amounts. The possibility of infection with parasites seems remote.

If necessary, liver may be administered by a stomach tube. Very ill patients so treated have shown a remarkable and rapid improvement. At first the patient is often able to take only a little liver, but by perseverance, encouragement and attention to all the aspects of a particular case, and giving little other food, we may induce these individuals to take the full amount.

The problem of how much liver the patient should continue to eat, after his red blood cell production is stimulated, remains unsolved. Some clinicians give 150 Gm. three times a week. It appears, however that some patients require more than others to keep them in the best condition. Perhaps an excess of liver or a fraction of it can undesirably force the delivery of cells from the marrow, and hemoglobin formation may fail to keep pace with cell production.

Other Foods

Some patients take 120 Gm. of red-muscle meat a day. Many have taken much less. However it seems wise that the patients include in their diet at least a liberal amount—70 Gm. a day.

It is advised that fruits and green vegetables be prescribed in generous amounts, and, if gastro-intestinal symptoms demand it, strained in the form of a puree.

An excess of fat will not inhibit a rapid growth of red blood cells in anemia. In large amounts it may upset the digestion.

Sweet, soggy, starch foods often intensify colonic indigestion, a condition frequently present, and as they have no particularly favorable effect on blood formation, they should be curtailed.

The diet for each patient should be prescribed for that particular person and must

contain large amounts of liver or its equivalent and foods to supply liberally, but not excessively, all the requirements of the body. Successful treatment demands caring for the patients, not prescribing for his cases. It will often necessitate much time. tact, and sympathy to get the patient to take the correct food. It is also important to emphasize the necessity of prolonged continuation of the diet. Thus attention to detail, faith and cooperation are helpful for satisfactory results.

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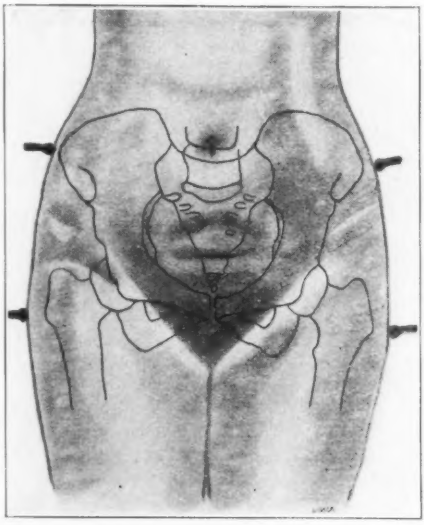
Pelvimetry.

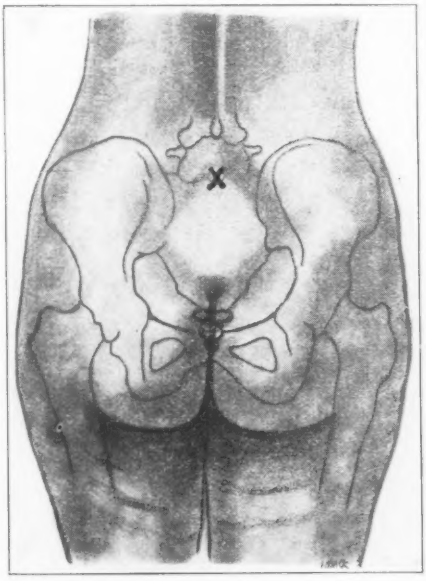
By EDMUND LISSACK, B.Sc., M.D., *Concordia, Missouri*

THE pelvimeter is as essential to the obstetrician as the stethoscope is to the internist. In spite of such teachings there are still many physicians who never resort to the routine employment of pelvic measurements and, consequently, some mistakes have been made which might have been avoided.

Some obstruction to labor, by the small size or abnormal shape of the pelvis, causes many deaths of mothers and also many stillbirths. If such difficulty is discovered before labor begins, proper treatment will, in almost all cases, save the life of the mother and child; if it is not discovered before labor has begun or, perhaps, until it has continued for many hours, the danger to both is greatly increased. Every woman, therefore, should have during pregnancy—and above all during her first pregnancy—an examination in which measurements are made to enable the physician to judge whether or not there will be any obstruction to labor. A case in which a complication of this kind is found requires the greatest skill and experience in treatment, but with such treatment the life and health of the mother are almost always safe.

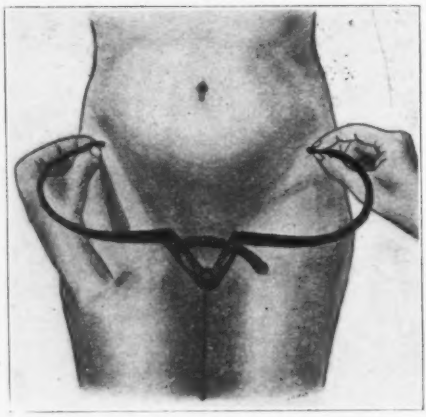


Position of the Points of the Pelvimeter for Measuring the Intercristal and Bitrochanteric Diameters of the Pelvis.



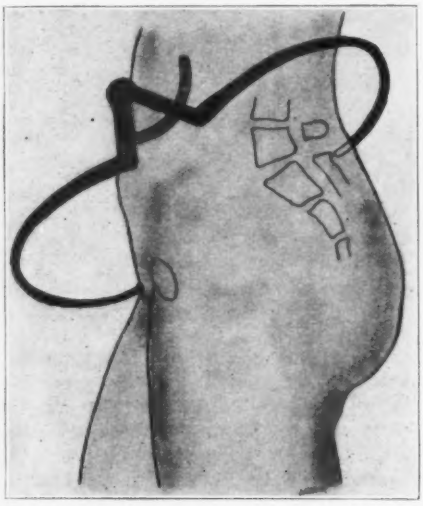
Point (X) Below the Spine of the Last Lumbar Vertebra Used to Indicate the Posterior Extremity of the External Conjugate of the Pelvic Inlet.

In this paper the relationship of the pelvis to the child will be considered. In order to ascertain some knowledge of the former,



Measuring the Interspinal Diameter with the Pelvimeter.

there are numerous observations to make. A definite routine should be followed; thus there is less chance of overlooking some finding which may later prove valuable. This routine includes measuring the height, observing the gait and standing posture and examining the curvature of the spine of every patient. Inspection of the tibia, ribs and forehead often gives a clue as to the existence of rachitic stigmas. The presence of a pendulous abdomen, in a primipara, is of more and greater significance than the same condition in a multipara. The duration of a previous labor, size of the child and type of delivery, as well as the length of the pregnancy, give valuable information.

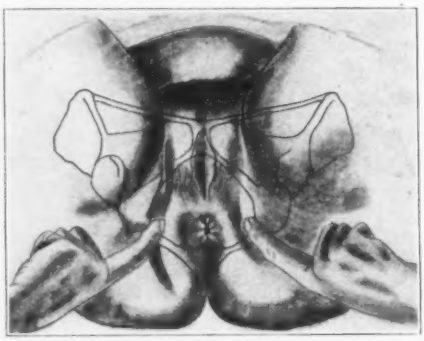


Measuring the External Conjugate Diameter of the Pelvic Inlet.

The routine measurements are divided into external and internal.

The *external measurements* are:—

1. The distance between the spines of the ilia (normal 26cm.)
2. The distance between the crests of the ilia (normal 29cm.)
3. The distance between the greater trochanters (normal 31cm.)
4. The anterior-posterior diameter, from the depression under the last lumbar spine (the upper dimple of the rhomboid) to the anterior surface of the pubis, called the *external conjugate* (normal 20cm.)



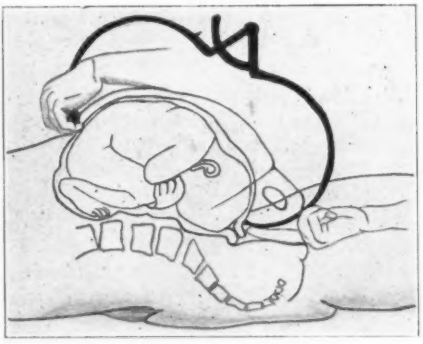
Method of Measuring the Transverse Diameter of the Pelvic Inlet.

The rhomboid-shaped space on the back, marked by four dimples, is called the rhomboid of Michaelis. This rhomboid is distorted when the woman has a contracted pelvis. It becomes squat with a flat pelvis and irregular if the woman is asymmetrically built.

Measuring the Diagonal Conjugate.

The *internal measurements* are:—

1. The *true conjugate* (which is the anterior-posterior diameter of the inlet of the pelvis) cannot be measured directly. Therefore we take the *diagonal conjugate*



Measuring the Fetal Ovoid.

(the distance from the under edge of the pubis to the promontory of the sacrum; normal 12.5cm.) To obtain the length of the true conjugate we deduct 1.5cm. (normal 11cm.)

2. The distance between the tuberosities of the ischia (normal 11cm.) This gives us the breadth of the outlet.

3. The distance between the lower edge of the pubis and the end of the *sacrum* (not coccyx)—normal 11.5 cm.—which gives us the length of the outlet.

Having made these measurements and observations, the question arises: "Can the fetal head enter the birth canal and, if so, can it get out?"

Thus it is quite evident that the diagonal conjugate and the outlet measurements are important. The child's head, however, plays an important part also. A fair estimate of the size of the fetus can be obtained by measuring the height of the fundus, according to Ahlfeld.

The cases of marked pelvic dystochia rarely cause us much worry in choosing the course to follow; the lesser degrees of contraction and the borderline cases, however, tax our judgment.

The presentation of a few cases will show the significance of the measurements.

Case A.	**Between spines,**	**23.5cm.**
	Between crests,	25 cm.
	Between trochanters,	27 cm.
	External conjugate,	18 cm.
	Diagonal conjugate,	10.5cm.
	True conjugate,	9cm. (est.)
	Between tuberosities,	9 cm.
	Pubis to sacrum,	9 cm.

Here all the dimensions are smaller than normal (therefore, a *justo-minor* pelvis), and if the baby is normal in size or larger, difficulty is expected. If the baby is very small it may go through the pelvis.

Case B.	Between spines,	27 cm.
	Between crests,	30 cm.
	Between trochanters,	34 cm.
	External conjugate,	21.5cm.
	Diagonal conjugate,	12.5cm.
	True conjugate,	11cm. (est.)
	Between tuberosities,	7 cm.
	Pubis to sacrum,	9 cm.

In this case the external measurements are fairly normal, but the outlet will cause trouble. There is a reduction of all the outlet measurements. This is a *funnel pelvis*, large and roomy at the inlet but narrow at the outlet. The baby's head will meet obstruction when it reaches the tuberosities of the ischia. In this case the baby would have to be small, its head soft and moldable and the pains strong, in order to permit spontaneous delivery.

Case C.	Between spines,	28.5cm.
	Between crests,	29 cm.
	Between trochanters,	34.5cm.
	External conjugate,	17 cm.
	Diagonal conjugate,	10 cm.
	True conjugate,	8.5cm. (est.)
	Between tuberosities,	12 cm.
	Pubis to sacrum,	10 cm.

This case shows all the anterior-posterior diameters shorter than normal, while those from side to side are normal and some even larger than normal (thus a *flat pelvis*.) A full term child will seldom go through such a narrow passage, as the bi-temporal diameter of the child's head normally is about 9.5cm. Since there is room at the sides of the pelvis, the broad portion of the head may slip off the promontory of the sacrum and allow a smaller diameter to pass through the true conjugate, which is only 8.5cm.

Case D.	Between spines,	22 cm.
	Between crests,	25.5 cm.
	Between trochanters,	26.5 cm.
	External conjugate,	17 cm.
	Diagonal conjugate,	9 cm.
	True conjugate,	7.5 cm.(est.)
	Between tuberosities,	8 cm.
	Pubis to sacrum	8 cm.

This is a flat, generally contracted pelvis. The true conjugate is only 7.5cm. Cesarean section is here indicated.

This last case clearly illustrates the importance of proper prenatal care. By proper prenatal examinations we can ascertain the dimensions of the pelvis and of the child. If a natural birth seems impossible we can induce labor while the child is small, or wait until term and do a cesarean section. If such a patient, with a contracted pelvis, were allowed to go into labor, the favorable time for a cesarean section may be passed and forceful attempts at delivery would result in the baby's death.

What the Individual Physician Is Entitled To

By J. Lewis Webb, M.D., *Chicago, Illinois*

WHEN society utilizes a man's time and energy, the man is entitled to sufficient pay to enable him to enjoy security, food, shelter, health, clothing and other necessities of life.

The first thing a physician is entitled to is a practical education and introduction into the profession. His education should enable him to occupy a suitable social and economic plane. It is dishonest to induce the youth to enter a crowded or pauperized profession, or to occupy his time and take his money and then turn him out, still an untrained tyro, to struggle alone for another period of years while he finds his own way to the actualities of practice.

Organized medicine and medical colleges should cooperate to see to it that the graduates come only in numbers sufficient to maintain a proper supply of practitioners. They should also overcome the present belief of new graduates, that it is necessary that they serve in dispensaries and elsewhere in order that they may become proficient in their profession. The profession now suffers because there are so many inexperienced physicians anxious to serve for nothing or in poorly-paid positions, in order that they may complete their education. In most instances these men are seriously striving to become proficient general practitioners. If they desire special efficiency, as specialists, it would only be proper that they be directed to study with "masters" in the chosen specialty; but no other group imposes the hardships upon the novice that physicians permit to be imposed upon recent graduates in medicine.

Wages Plus Interest

For the purpose of this thesis it is assumed that even the most recent graduate is entitled to a living. Later he may secure as large an income as his talents and proficiency merit. After he has given his time, money and energy, he has done his part in the agreement. He leaves it to us what is worth while studying. Certainly we should have him study things that are actually useful *on the day he graduates*, and we should, as a group, for his sake and for our own protection, back him up in requiring that his services be paid for by society, at least to an amount equal to the wages he would have been able to earn as a laborer, plus some interest upon his investment in his education. These seemingly radical thoughts are interesting and, it is believed, practical, when dwelt upon.

It is suggested then that the new graduate should be entitled to:

Wages of $125.00 per month	$1,500 per year
Interest of 15% on $45,000 invested (this includes cash, time and wages lost while in college)	6,750
Total	$8,250

We admit that we do not believe he will ever get it, but the fact that he does not get it surely reflects upon our own manhood, in that we do not demand at least laborers' pay, and that we do not believe his investment in his education is as good an investment as stock in some good business.

When an investment is made in a safe, sure business, where there is little risk to the safety of the capital, the investor is entitled to 5 percent interest. When the investment is more or less speculative or when it is in some machine or plant that depreciates, prudent men always figure themselves entitled to a rate of interest that insures a final return of their first investment. This then is the reason why we estimate that a physician is entitled to 15 percent return on his investment. Even using this figure does not make medicine as attractive an investment as good securities would be.

If we fail to demand the treatment granted all other men, certainly we brand ourselves as incompetents. If society does not desire to pay this amount for our services, we should then consider making our investment comply with what society is willing to pay. A railroad can either supply poor equipment and allow its customers to pay accordingly, or it can supply luxurious equipment and educate its customers to pay for it. In fact, that is the principle

upon which all large present business operates. Medicine should demonstrate that it is entitled to be included with the successful modern businesses.

Anticipating that these words are causing some horror to many persons still enslaved to old ideas, I will digress a moment to pay my respects to those old ideas. Christianity has suffered from many peculiar human modifications. The idea of meekness and poverty formerly had considerable influence. Where it came from is difficult to determine. Jesus is nowhere described as being of the over-meek type or dirty or in rags. As a matter of fact, He is described as having shown considerable spirit and even anger upon several occasions. When it is recalled how He had rich and influential acquaintances in almost every town; how He was able to ask a friend for the use of rooms upon a moment's notice, in a time when most of the people lived in tenements worse than any of today; when it is recalled that His friends sent Him a creature to ride upon when most men walked; when it is remembered that the soldiers had a serious argument over the division of the clothing at the crucifixion; surely, He did not set up meekness, rags and poverty as ideals. Apparently, then, the later teachings about poverty and meekness were without special sanction. This is included here to try and prod some of our over-meek colleagues to be more honest and self respecting.

When the physician gains experience and is able to undertake the most serious tasks of practice, he is entitled to an increased reward. Society has ever been willing to pay for service rendered. There is, in truth, considerable foundation for the popular method of estimating one's success by the financial rewards given. This, like all rules, has some conspicious exceptions but it is, in large measure, sound. Those men who truly serve society are entitled to a sufficiency of the comforts of life. They are entitled to have their debts paid. They are entitled to be secure in their own old age.

A Comfortable Competence

Can one physician live more cheaply than another? If one physician does control his own living, so that his expenses are low, must he charge less; i.e., must all physicians be expected to meet the competition of the cheapest among them? No other group of men follows this rule. On the other hand, those who develop special ability should be specially rewarded, as that encourages others to strive to emulate them.

Each physician is entitled to sufficient income from his practice to meet the overhead cost of practice. No physician buys a medical book strictly for his own pleasure. Medical books, then, serve as an illustration of the expenses that are incurred as the overhead of practice.

Every physician is entitled to sufficient income to meet a personal budget that enables him to be as comfortable and as efficient as the banker, the lawyer or the successful politician. Society would be afraid of its banks, its lawyers and its Government, if it seriously underpaid those engaged in these lines of service. Suffice it to say that a physician is entitled to a proper education, an income that meets his budget, and security in his declining years, and these should be of a sufficiently satisfactory nature to command respect and honor.

Any one who refuses or usurps these returns to individual physicians is worthy of condemnation. The following then may deserve some reproof:

1.—Medical college executives;

2.—Selfish members of the profession;

3.—Laymen, including citizens, politicians, racketeers, philanthropists (?), social service workers and charity organizations;

4.—Individual physicians who assume the pose of meek martyrs to their fellow men;

5.—Officers of medical societies who fail to grasp their opportunity to make organized medicine effective;

6.—Physicians who fail to support their profession.

These persons and organizations, each actually working in its own private interests, endanger the health service of the community and the medical business. Can they wreck the ship? Time alone will tell.

Surgical Complications*

Their Prevention and Treatment

By B. F. Croutch, M.D., *Chicago, Ill.*

COMPLICATIONS following surgical procedures are many. Some which are overlooked take care of themselves during convalescence; others assume dangerous proportions with fatal results.

The safety of surgical procedures is largely dependent on a carefully studied history, which takes into consideration the age, state of nutrition, occupation, and sex, and a careful general examination of the patient, before operation. Of course, there are cases which require immediate surgical intervention, but the urgency of the case should not keep the surgeon from applying all his knowledge to prevent any serious consequences.

In severe operations, of long duration, great care should be exercised to prevent complications. The case should not be considered finished when the patient leaves the operating room.

In this paper the more common preventive methods will be considered briefly.

Anesthesia.—The anesthetic should be administered by a competent anesthetist, and the type of anesthesia should depend upon the condition of the patient and the nature of the operation. The difficulties arising during anesthesia are of two varieties, local and central. The local causes are those arising in the mouth or throat, such as the falling together of the cheeks and lips, in an aged patient without teeth; large tongue and tonsils; adenoids; swellings of the mouth and throat, etc. These can all be overcome by the use of nasal or intrapharyngeal tubes. Central causes are those that directly affect the medulla, as shock or loss of blood. These can be prevented, in most cases, by stopping the anesthetic, lowering the head, elevating the feet and keeping the patient warm.

Pain is one of the earliest subjective manifestations after completion of the operation. A minimum of handling and manipulation during the operative procedure decreases the amount of postoperative pain. Morphine should be administered to relieve pain during the first twenty-four hours.

Pain produced by splints, casts and tight bandages, in operations on bones and joints, should not be treated lightly. The splints and bandages should be loosened and the cast cut. Serious results, in the way of damaged muscles and nerves and deformed extremities, have followed failure to heed this warning.

Respiratory System.—A careful examination for the presence of coughs, colds and respiratory infections should be made before every operation. When it is necessary to operate in the presence of these conditions, extra precautions should be taken, after operation, to protect the patient from pneumonia.

There are many methods in use for the prevention of postoperative pneumonia, such as the intravenous injection of a ten-percent solution of dextrose, intramuscular injections of ether, and pneumococcus vaccination.

Willerding[1] calls attention to a new preparation, **mentopin,** containing one percent thymol, three percent menthol, and ninety-six percent terpichin. Immediately after operation, 2.2 c.c. of mentopin is injected intragluteally and the dose is repeated on each of two days. It is not an absolute prophylactic against postoperative pulmonary complications, but it reduces the mortality and has a favorable influence upon the course of this complication should it appear.

Ether injections and auto-hemotherapy have many advocates but need further developments before being used routinely.

Pleurisy is frequently encountered and can usually be eliminated by excluding tuberculosis or septic infection.

Pulmonary emboli occur, as a rule, one to two weeks after operations. The first manifestation is sudden pain, with embarrassed respiratory and cardiac action. Respiratory stimulants, such as carbon dioxide, arouse the respiratory center, causing the respirations to attain a maximum depth, so that the narcotic is more rapidly eliminated.

Circulatory System.—Before operation, the circulation should be stimulated and regulated by diet, mechanical measures or by medicaments. In the way of diet, easily digested food in moderate amounts, decreased fluid intake if edema is present, and

*Presented before the Medical Round Table of Chicago, April, 1928.

elimination of intestinal stasis, are all that is necessary. In greatly embarrassed circulations, venesection, the introduction of dextrose and salt solutions, skin stimulation and baths may be necessary. Digitalis preparations, quinidine, caffeine, camphor, epinephrin, hypophysin, pituitary gland extract and amyl nitrate are commendable.

Postoperatively, carbon dioxide is valuable in lowering the blood pressure and supplying oxygen to the tissues, by stimulating respiration. In arrest of the heart action, epinephrin, 1:1000, in doses of 1 cc., injected into the cardiac muscle, may have a beneficial effect. Open operation and massage of the heart has been tried by some.

Hemorrhage.—In patients with low coagulability of the blood, intravenous injections of a ten-percent calcium chloride solution in 5 cc. doses, daily, for one week before operation, in most cases, prevent serious hemorrhage. The intravenous injection of 500 to 1000 cc. of a ten-percent solution of dextrose with insulin, daily, before and after operation, is considered of value. However, the use of insulin is still in the experimental stage and it should not be administered indiscriminately. In case of severe postoperative hemorrhage, transfusion of typed blood may save the patient's life. In every hospital suitable donors should be available.

Thrombosis and Phlebitis.—Systematic massage and movements of the lower extremities, begun immediately after the patient recovers from the effects of the anesthetic, will, in many cases, prevent the occurrence of thrombosis and phlebitis. These complications occur after about one percent of all operations, and particularly after pelvic infections.

Gastrointestinal Tract. — A common complication following laparotomy is gas pains. These are due to the dilatation of localized segments of the bowel with gas. The theory has been advanced by Cox[3] that the empty, collapsed intestinal tract, the paresis of the bowel caused by the anesthetic and the trauma of operation make an ideal condition for the development and accumulation of gas. In addition, no food is given until the third day, and yet an attempt is made to move the bowels in forty-eight hours. As a remedy he advocates the omission of preoperative catharsis and enemas and the introduction of early feeding.

Ileus.—To combat ileus the patient should be laid on the abdomen, given high enemas of milk and molasses or magnesium sulphate, and infusions of isotonic saline solution containing 4 to 6 cc. of hypophysin (pituitary extract). If this treatment is ineffectual, surgical ileostomy, under local anesthesia, may be necessary.

Orr and Haden[3], from their experimental work, are convinced that sodium chloride is the essential factor in the treatment of toxemia developing in high intestinal obstruction. The quantity of the salt necessary to return the blood chemical changes to normal can be determined only by blood studies. Their estimate is that one gram of sodium chloride per kilogram of body weight should be given as an initial dose, in very toxic patients. This is best given subcutaneously, in one- or two-percent solution, or intravenously in five-percent solution.

In operations on the stomach and duodenum there are two definite forms of intestinal obstruction which sometimes develop. One is an obstruction of the jejunum, the other, of the ileum. Treatment is often without avail, because it is instituted after tissue destruction has occurred. Here the time element is all-important.

Vomiting and Thirst.—Vomiting may be prevented by giving no fluids by mouth for twenty-four hours. Gastric lavage with five-percent sodium bicarbonate solution, leaving some of the solution in the stomach, and epinephrin, five drops by mouth every three hours, will aid. Hot stupes to the abdomen lessen the spastic condition of the muscles. Proctoclysis of glucose and sodium bicarbonate and hypodermoclysis are used routinely by all surgeons.

For the relief of thirst and inanition after abdominal operations, Crawford[4] employs appendicostomy. He has employed it in nine cases. One patient died two weeks after operation. By this method the pulse is rapidly returned to normal; peristalsis is stimulated; the blood pressure is raised; the patient is fed without disturbance and the stomach is allowed to rest.

Peritonitis.—When in doubt, *drain*. Peritonitis may be avoided by removing the focus of infection.

Acidosis.—Long anesthesias and injury to the liver predispose to the development of acidosis. Magnesium sulphate stupes are of great importance. Administration

of alkaline solutions by hypodermoclysis, proctoclysis, intravenously or by mouth, serve to combat the acidosis. Glucose containing insulin has given excellent results in the hands of some observers.

Cystitis.—Operations upon the generative organs of women are often followed by retention of urine and the development of cystitis. The intravenous injection of a forty percent urotropin (methenamin) solution affords relief in these cases. Catheterization following operation should be avoided as much as possible.

The above-mentioned are perhaps the most common complications met with in general surgery. To a certain extent they are all avoidable, but when they do occur they must be handled promptly and energetically.

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Discussion

Dr. George B. Lake: Recent investigations indicate that much of the danger associated with local anesthesia, obtained with the derivatives of cocaine, can be obviated by the prior administration of the barbituric acid preparations, such as veronal (barbital), Neonal, etc.

Many surgeons feel that general anesthesia is smoother and that less of the anesthetic (especially ether) is required if an injection of scopolamine and morphine is administered an hour previous. These drugs can now be obtained in combination with ephedrine, which should prove a valuable addition.

Of the skin antiseptics, acriflavine has been rather conclusively shown to be the most penetrating.

In the absence of the special hemostatic serums, diphtheria antitoxin, which is readily obtainable, often works well.

Col. Wm. L. Keller, probably the leading operating surgeon of the Regular Army, used always to give patients, after an ether anesthesia, an enema of strong, black coffee and whiskey. The results were excellent.

If a patient has difficulty in urinating after operation, it has been recommended that, when a catheter is passed, the bladder be well filled with a mild antiseptic solution, like 1:10,000 potassium permanganate, and the patient allowed to pass this, after which he will void naturally.

The present tendency seems to be to get patients up early, after operations, thus avoiding much of the difficulty and discomfort experienced by many persons in using a bed pan.

Dr. Frank J. Novak, Jr.: It seems likely that coffee and whiskey given by mouth, would be effective after a local anesthesia with the cocaine products.

Tonsillectomy is an operation for a specialist. In 5 such cases, operated upon by general surgeons, in which lung abscess developed, pieces of wire were found in the abscess in 4 cases.

The lungs will tolerate much foreign material, entering by aspiration, if the ciliated epithelium is intact. This is lost after an attack of influenza, so we must be especially careful in such cases.

Dr. Burton Haseltine: If the head-surgeon selects his cases properly and works with care, he will encounter no idiosyncrasies to procaine.

The throat should be carefully examined for infectious conditions and, if possible, cleaned up before all general anesthesias. If we will do this we will have no post-operative pneumonias.

Dr. A. J. Pacini: Chloroform is popularly supposed to be a more dangerous anesthetic than ether, but we have found it difficult to kill rats with chloroform.

The importance of the actinic rays in peritoneal infections has been shown by some experiments. We slit open the abdomens of a number of rats, irradiated the contents with ultraviolet rays, and closed them, with adhesive straps. No aseptic precautions were used; but very few cases of peritonitis developed.

Dr. A. R. Hollender: The bacterial flora of the upper respiratory tract is varied and fairly constant, even in the absence of any disease condition. The same types of organisms are found in postoperative lung abscesses. This seems to indicate that it is not the bacteria, but the *resistance of the tissues* which is the determining factor in these complications, as comparatively few lung abscesses develop following operation, even though the potentially causative organisms are almost universally present.

Foreign protein therapy is of immense importance in the treatment of all infections, particularly those of the eye.

DR. DISRAELI KOBAK: Chloroform is not an especially dangerous anesthetic, in competent hands, and should be used, when a general anesthetic is indicated, in cases where surgical diathermy is employed about the head and neck, to obviate the occurrence of explosions.

Bone infections yield to physical therapy—**diathermy,** radiant heat-light or ultraviolet rays. Ultraviolet rays are also of value in **stitch abscesses** and in postoperative, secondary anemia. They are specific for tuberculous peritonitis.

Massage is *contraindicated* in **thrombosis;** but diathermy and radiant heat-light are serviceable in phlebitis. Lung complications, treated with diathermy, clear up well and promptly. In **bedsores,** radiant heat-light does good work and, so, sometimes, does actinotherapy. The latter agency is also very helpful in **fistulas;** but it must be remembered that a fibrotic wall, if present, must be surgically removed before the ultraviolet rays can act.

DR. ISRAEL SHERRY: A source of infections which has heretofore been overlooked depends upon the improper mechanical construction of the **instrument sterilizers** in general use. The inlet pipe enters at the *bottom.* After the water has been in contact with soiled and infected instruments, the steam forces it back into the general water system, so that infectious material is present in the water from the taps where hands are washed. Cases of streptococcic sore throat have been definitely traced to this method of dissemination.

DR. GUSTAVUS M. BLECH: The physiologic state of the bowel is *not* emptiness, so avoid purging, prior to operation.

Do not be afraid to give water to surgical patients, after operation. It increases their comfort and does no harm.

Do not put a patient in hospital at night and operate upon him the next morning, except in case of grave emergency. Every case should be carefully studied, prior to operation; cases should be selected; and poor operative risks should receive careful preoperative preparation, if at all possible to do so.

If the pulse goes up like a stepladder, thrombosis is threatening.

DR. LEO C. DUBOIS: In prostatic surgery the great dangers are hypostatic pneumonia and uremia. To minimize the occurrence of these complications, use local anesthesia so far as possible, get the patients up early and establish kidney function promptly.

Avoid the use of morphine for postoperative pain. Give drugs of the barbituric acid series—barbital, Neonal, etc.

DR. DIETRICH KLEMPTNER: If there were no postoperative complications there would be more surgeons.

A child, given a general anesthetic for tonsillectomy, suddenly became cyanotic and ceased to breathe. The aspirating tube removed a mass of *chewing-gum* from the larynx.

Following cholecystectomy we frequently find some of the signs of pneumonia over the base of the right lung, but the *tactile fremitus remains normal.* This condition is due to "splinting" of the diaphragm as a result of pain.

DR. MAXIMILIAN KERN: Almost every operating room is too hot and the patient is lightly covered. Then someone opens a door or window to make the place bearable, drafts are produced and the patient is chilled. Such conditions should be corrected.

Surgeons do not make sufficient use of *good graphic charts* of the temperature, pulse and respiration. They are of immense value, *if properly kept.*

In order to get an accurate reading of the temperature, the thermometer must remain in the patient's mouth or rectum for *three full minutes, by the watch,* or in the axilla or groin for *five* minutes.

CAPT. R. P. BOURBON, M.C., U. S. A., FT. SHERIDAN, ILL.: More cases of pneumonia follow tonsil operations under general than under local anesthesia.

In the military hospital at Ft. Sheridan we use picric acid solutions for preoperative skin treatment. This sometimes produces a dermatitis.

DR. B. F. CROUTCH, closing: *Status lymphaticus,* which is frequently mentioned in connection with surgical complications, is, in my opinion, a myth.

Inhalations of CO_2 are giving good results in many cases of respiratory failure.

Experiments are being conducted to determine whether or not it is possible to sterilize the skin, prior to operation, by the use of ultraviolet rays. The question is not yet settled.

In spite of any talk to the contrary, "When in doubt, *drain*"; and *turn in* the

appendix stump before closing the abdomen.

Use x-rays for a positive diagnosis in cases of suspected pneumonia.

Postoperative *hiccup* can often be controlled by hypodermic injections of 1 cc. of ether, given every 2 to 3 hours.

Vincent's Infections

By L. J. MORIARTY, D.D.S., *Watertown, S. D.*

IN THE year 1896, Vincent discovered the fusiform bacillus in the throat and tonsils, but prior to 1914 infection with this organism was rare in Europe and extremely rare in America. Perhaps this seeming rarity was due somewhat to a general lack of knowledge of the disease, but, apparently, there has been an increase in these infections in recent years. The general belief is that the spreading was due, to a great extent, to insanitary conditions in the late War, as a marked increase was observed at that time.

Osler says, "What is known as Vincent's angina is an acute, febrile, pseudo-membraneous disease with a soft, yellowish-green exudate which if removed leaves a bleeding ulcer. The general symptoms may be severe and there may be swelling of the glands of the neck. There have been cases in which ulceration has even proceeded to destruction of the uvula."

Cultural investigation has brought out these facts:

1.—The two organisms of Vincent's infection are, in reality, two forms of the same organism.

2.—Vincent's organism is an anaerobe and lives best in a slightly acid medium.

3.—The growth of the organism changes the environment so that it is self-limiting but not self-exterminating.

4.—Of the two forms, the fusiform is the more resistant; it will live but not multiply under aerobic conditions.

SYMPTOMS

Acute Vincent's infection in the mouth is characterized by lesions of a grayish color, covered with a false membrane of necrotic material which, upon removal, leaves a bleeding surface. Symptoms are pain, fever, malaise, headache, fatigue, nausea, salivation, and sometimes swelling of the cervical glands. In all cases there is a sweetish, putrid odor of the breath which, aside from microscopic findings, is one of the strongest diagnostic symptoms. The patient's blood coagulation time is generally lengthened, particularly in chronic cases.

There are some findings I wish to present at this time, to learn if possible whether any one else has noticed any of these points.

1.—Most cases have been in a more or less run down general condition, indicating that a poor condition of general health is conducive to local infections; also that this infection has a marked general effect.

2.—Of the entire 60 cases which I have observed there was not one tobacco chewer. This may be a coincidence, but I should like to hear if others have had a case of true Vincent's infection in the mouth of an habitual tobacco chewer.

3.—I have never had a case of Vincent's infection in a mouth where there was no traumatic occlusion. In nearly all cases the points where the disease began and had progressed furthest were the points of poorest occlusion, due perhaps to the lack of cleansing by the normal food excursions, and to the already lowered resistance of these points.

4.—In most cases there were few or no signs of the use of the tooth brush or oral hygiene in general. My cases were predominatingly in males. These two facts led me to conclude that the female is the more diligent in the practice of oral hygiene; also that she is probably not so often exposed to public drinking cups and other germ carriers.

5.—None of my cases were above 40 years of age, which led me to believe that it is mainly a disease of the first half of life.

TREATMENT

The list of drugs used and recommended by practitioners is a long one, but in my practice I have reduced them to a few, with much better results. The list includes silver nitrate, phenol, sodium perborate, 7-percent chromic acid, iodine, Fowler's solution, wine of ipecac, Dakin's

solution, methylene blue, trichloracetic acid, formalin, cuprous sulphate, hydrogen peroxide, and neoarsphenamine. My belief is that the fewer drugs one can use, and obtain the desired results, the better is the treatment.

In treating this condition for the past four years I have adopted practically a standard procedure which, in my hands, gives the best results. My experience includes 60 cases, which number is much smaller than many have reported. In the *American Dental Association Journal*, of December, 1928, Reichmann presented an article which was very good.

After diagnosis I give the mouth a thorough spraying with the pressure spray, using the following prescription, which is by no means an original one with me:

Hydrogen peroxide	8 oz.	(250.00)
Wine of ipecac	6 drams	(24.00)
Fowler's solution	10 drams	(40.00)
Glycerine	10 drams	(40.00)
Distilled water	q.s. 16 fl. oz.	(500.00)

I ask the patient to return the following day and repeat the spraying. At each sitting I do what cleaning can be done without too much pain. I continue this until the teeth are thoroughly cleaned, which I find can be done in from 2 to 6 days, depending upon the severity of the case. In this point I differ from the procedure recommended by most men, but I find that results are much quicker and I have had no ill effects as yet.

Along with this office treatment I have the patient use the same prescription at least 8 times daily—the oftener the better. In cases that extend into the throat (Vincent's angina) or on buccal tissues away from the teeth, I use resorcin, painted on with a swab, to good advantage.

Another point that many men do not stress enough is the fact that all reparative work must be thoroughly done before a case can be dismissed as cured. All overhanging crowns, fillings and poorly-fitted, insanitary bridges must be corrected. Always correct traumatic occlusion as much as possible. This, with the spray treatment and home treatment, are continued until all signs have disappeared. Then the patient is dismissed, with instructions to use the prescription for two weeks, three times a day, along with thorough cleaning with the tooth brush.

My reason for using the prescription for two weeks after the apparent cure is that some of the bacilli will often be rendered dormant but not killed, flaring back into action after treatment stops. Two weeks, in my experience, has invariably proven sufficient, except in cases where the patient decided that no more treatment was needed and stopped treatment voluntarily. Of the 60 cases treated in four years, none who have come back for further treatment followed my instruction explicitly and allowed me to do all the work I deemed necessary.

Case Reports

I wish to give the history of two of the more severe cases.

Case 1.— Mr. D. H.; age 29; confined to his bed four days before I was called and attended by a physician; temperature as high as 104°F.; breathing and swallowing difficult; nausea, vomiting, salivation and much pain and swelling of the mouth and throat; typical odor; slough extending to all parts of the mouth and into the throat. A smear showed fusiform bacilli and spirochetes, in abundance.

This patient was treated with the above prescription for six days, along with painting the tonsils with resorcin, and showed much improvement each day. On the sixth day he reported at the office for treatment. I gave thorough prophylaxis in three sittings, used chromic acid, extracted several roots, and filled several teeth. He was discharged at the end of three weeks, as cured. No reappearance of the infection has occurred in two years time.

Case 2.—Mr. G. P.; age 23. Presented himself with sore throat, swollen cervical glands, sore mouth, typical odor and other symptoms. A smear showed fusiform bacilli and spirochetes.

He was treated with same prescription and in same manner as Case 1. I painted his throat with resorcin, on the fourth day cleaned the teeth, continued treatment and did reparative work—relieved some points of trauma on the anterior teeth and extracted the upper right lateral incisor, which was crowded out of alignment lingually and showed extreme destruction of the investing tissues.

I dismissed the case as cured at the end of fifteen days. There has been no return of the infection in two and half years. Both of these patients have returned for prophylaxis three times, with the gums in good condition.

My conclusions are that oxygen, in the form of hydrogen peroxide, together with thorough cleaning, needed extractions, reparative work and the correction, so far as possible, of traumatic occlusion are the main factors in the treatment of Vincent's infection.

Century Block.

THE SEMINAR

CONDUCTED BY

MAX THOREK, M.D. (*Surgery*) GEO. B. LAKE, M.D. (*Medicine*)

[NOTE: Our readers are cordially invited to submit fully worked up problems to the *Seminar* and to take part in the discussion of any or all problems submitted.

Discussions should reach this office *not later* than the 1st of the month following the appearance of the problem.

Address all communications intended for this department to *The Seminar*, care CLINICAL MEDICINE AND SURGERY, North Chicago, Ill.]

PROBLEM NO. 1, SERIES 1929 (SURGICAL)
(SEE CLIN. MED. AND SURG., DEC., 1928, P. 907)

Recapitulation: A boy, 12 years old, had been working in the hay field and at 3:00 P.M. was taken with nausea and pain in the lower right abdominal quadrant.

At 9:00 P.M. (in the hospital) he was drowsy; face pale and anxious; respirations, rapid and shallow; unable to walk or stand, because of pain in the right, lower abdomen. The chest and rectum were normal; bowels had moved twice during the day; right, lower abdominal quadrant showed board-like rigidity, muscle spasm and extreme tenderness at and below McBurney's point. Temperature 98.6°F.; pulse, 84; respirations, 22; leukocytes, 14,000, with 60 percent polymorphonuclears.

Requirement: Give diagnosis and treatment.

DISCUSSION BY DR. GEORGE ACHESON
ST. MARTINS, N. B., CANADA

In the case presented here, I would say that the symptoms, as a whole, indicate fulminating appendicitis, with probable rupture; and the treatment, loudly called for, *immediate operation*.

Should no rupture or pus be found, close the incision in the usual way, after removal of the appendix; otherwise, remove the appendix with the least amount of manipulation necessary and use whatever form of drainage seems indicated.

I base my diagnosis chiefly on the acute onset of the illness, the nausea and localized pain, and the signs revealed by palpation of the right lower abdomen.

There may be a catch somewhere about this case, but I don't see it.

DISCUSSION BY DR. I. E. CRACK,
HAMILTON, ONT.

In dealing with the sick one should always consider the common causes of diseases first. Appendicitis being the most common cause of an "acute abdomen", one must naturally look upon this case as one of acute appendicitis of the fulminating type. Other possible causes of the symptoms here are:

1.—Orchitis (traumatic or otherwise) in an undescended testicle.

2.—Torsion of the cord.

3.—Richter's hernia.

4.—Inflammation of Meckel's diverticulum.

5.—Suppurative periostitis of the inner surface of the ilium.

The hernial openings of the patient should be carefuly palpated, and the scrotum examined for the presence or absence of the right testicle. If both testicles were in the scrotum I would recommend an immediate exploratory operation of this patient, with a preoperative diagnosis of acute appendicitis. The condition is a surgical one and the boy should be in the hands of an experienced surgeon, as the casual operator might meet more than he could handle.

(Is there any excuse today for the general practitioner doing his own major surgery?)

DISCUSSION BY DR. E. C. JUNGER
SOLDIER, IA.

Get into that belly quickly! It's *surgical*—either acute appendicitis, volvulus, throm-

bosis of the mesenteric vein or obstruction of the lumen of the bowel by some mechanical cause.

I should *operate at once*, and find out the details when the belly was open.

Discussion by Dr. B. B. Parker, Allerton, Ia.

My diagnosis would be acute appendicitis, probably ruptured or gangrenous. The well-defined rigidity, confined to the right lower quadrant of the abdomen, would mean that the affected area was walled off and no general peritonitis was present. The normal temperature, with practically no elevation of the pulse rate or respiration, should not mislead one as to the seriousness of the patient's condition. My guess would be that the appendix perforated at about 6:00 P.M., when it was reported that the pain suddenly became more severe.

The treatment should be immediate laparotomy, with the incision over McBurney's point or nearly over the center of the rigid area. *Remove the appendix.* Experience makes it possible practically never to leave one in the belly, although it is recognized as good treatment to incise the abscess and drain without searching for the appendix. If, as assumed, we have an abscess to deal with, due to a perforated appendix, I would drain, by using a small roll of rubber dam, and lead it out through a stab wound external to the incision.

If, perchance, the appendix is not ruptured, *do not drain*, even though a well defined abscess is present, confined to the appendix, in which case I would close the abdomen tight, and have found by experience that the peritoneum will quickly take care of what little contamination there is on the inside and that even without a drain we may feel safe that the outcome will be satisfactory. I believe that, unless there are well defined reasons for using drainage tubes, the patients are better off with no foreign bodies left in or protruding into the abdominal cavity.

Discussion by Dr. Chas. E. B. Flagg,* Vancouver, Wash.

The diagnosis is *perforative appendicitis.*

The treatment therefore is *immediate operation.*

The absence of fever and the only moderately increased pulse rate are due to the early stage of the disease. The 60 percent polymorphonuclears bears this out. There has not been time for reaction. The increased leukocytosis (14,000) is the first evidence of reaction and the formation of a defense line.

The absence of fever and of polymorphonuclear increase, and the only moderate increase in pulse rate should not be allowed to obscure the diagnosis to such a degree as to postpone operation, *the best chance of recovery,* until too late.

Solution by Dr. Sturre

The preoperative diagnosis was *perforated appendix.*

Operation at 10:55 P.M. Right rectus incision; abdomen full of serous fluid; no pus; no blood; bowels appear normal.

The appendix was delivered and was found normal. It was removed.

Further exploration revealed a mass, half the size of a fist, to the right of and

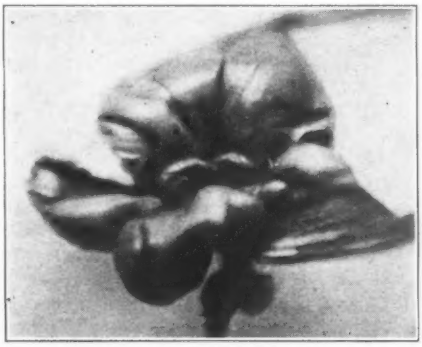

Fig. 1.

posterior to the bladder, in the pelvis. This was brought into the wound without difficulty and was a perfect bow-knot in the ileum, 18 inches above the cecum (see Fig. 1). The volvulus was gangrenous — entirely black. This was resected and an end-to-end anastomosis was done. The abdomen was closed, with a small, soft-rubber drain, which was removed in 36 hours. There was no drainage, except serum.

Recovery took place uneventfully in 12 days.

Final Discussion by Dr. Max Thorek, Chicago

I am glad that so many of the Seminar Family have entered wholeheartedly into the discussion of Dr. Sturre's case. At

*Received after Dr. Thorek's discussion was written.

first blush anyone would, of course, consider disease of the appendix. In fact, all the discussants, including Dr. Sturre himself, have made a diagnosis of appendicitis. The symptoms were surely typical enough. Nevertheless, we must keep in mind what has been said on the diagnosis of the various forms of appendicitis in a previous issue of the Seminar. (See CLIN. MED. AND SURG., Oct., 1928, p. 754). Certainly you will recall the case of mine, so similar to the one discussed, in which acute appendicitis had been diagnosed, but which proved to be a torsion of the entire large omentum.

The question of therapy is, so far as the patient is concerned, of paramount importance. We all agree that an immediate operation was indicated. Correct. The operation was done. The diagnosis was wrong. What difference did it make to the patient, in this case, what diagnosis was made? The therapy was the same. The case was one of volvulus of the ileum, with gangrene of the bowel. Dr. Sturre did a resection with end to end anastomosis. The patient recovered.

You see, General Acheson, you were right in saying "There is a catch somewhere". The catch was in the ileum and not in the appendix.

Dr. Parker suggests an incision over McBurney's point. I sincerely hope that he does not mean McBurney's gridiron incision. I strongly advocate the *Battle-Kammerer, pararectal incision*, in the male, and a longitudinal, transrectal incision in the female. The why and wherefore of these incisions are well known to you. If not, let me know and I shall gladly tell you.

A discussion on the old, controversial battle as to whether to drain, or not to drain, I do not care to enter into at this point. Time and space do not permit me to do so presently. I shall make this question a special subject at some future date.

I want to say, however, that I disagree with Dr. Parker on the drainage question. I would rather go to bed without the worries, as to whether or not an undiscovered drop of pus would, perchance, kill my patient, knowing that I had put in a drain as a safeguard, which Moynihan so aptly calls a "conscience drain".

I like the attitude of Dr. Junger. I admire his straightforward approach to a difficult diagnostic problem in this particular instance. In fact, he was the only one who was right in his suggested diagnosis, for the case proved to be one of volvulus.

I like to see a diagnosis put down in outline form, if sufficient outline is resorted to. It is refreshing to find the outline complete. A partial list is not so convincing. I wish Dr. Crack would have given a more complete outline. I feel certain that he knows it to perfection, but he has omitted a great many important diagnostic possibilities.

To cite just a few, I would say:

Volvulus.

Kidney disease, including stone in the ureter.

Perforated gastric or duodenal ulcer.

Perforated gall bladder.

Pneumonia or other thoracic condition, reflected as an acute abdominal condition.

Torsion of the omentum.

Omental tumors with strangulation, or with acute inflammation, etc., etc.

The parenthetic query of Dr. Crack, to wit: "Is there any excuse today for the general practitioner doing his own major surgery?" I purposely omit answering for it would embroil us all in a tremendously important discussion.

Let us ask the editor, whether or not we shall take that question up *in extenso*. If he agrees, let us voice our sentiments and opinions freely. I would welcome such discussion.

PROBLEM NO. 3 (SURGICAL)
SUBMITTED BY DR. MAX THOREK, CHICAGO

Today, Gentlemen, we will not delve into some complicated form of morbidity. We will take up a problem of every-day occurrence, and I want you to help me on the therapy.

Fig. 2.

The diagnosis of the case is, of course, apparent. Just glance at the appended x-ray picture and you will at once recog-

(Continued on p. 121)

CLINICAL NOTES AND PRACTICAL SUGGESTIONS

Preventing Colds With Vaccine

IT IS common knowledge that individuals vary enormously in their susceptibility to colds. Some people hardly ever get them, and others are constantly picking them up.

The attacks are usually so mild that the sufferers are not prevented from going about and attending to their work. They seldom seek the aid of a physician and, as most of the remedies, household or otherwise, are useless unless they include confinement to the house for at least 24 hours, most people decide to put up with the trouble and inconvenience of the cold rather than to undergo the cure.

This disdainful method of treating the ailment, although fraught always with slight danger, is, in most cases, fairly satisfactory for those fortunate individuals who get only an occasional cold, although it is well to remember that they probably give it to the rest of their households.

There is, however, a fairly large class who suffer from frequently recurring colds, the neglect of which lowers their general health and renders them liable to develop more serious complaints. These people would do well to consider whether it is not worth their while to avail themselves of the method which now exists for increasing their resistance to those bacteria which are the cause of this disorder.

A vaccine prepared from the microbes concerned has been in use for a sufficient length of time for its effectiveness, in the great majority of cases, to be established. It seems regrettable that this simple protective measure should not be resorted to before the season for colds arrives.

The common cold, like all diseases of bacterial origin, is due to the operation of poisons produced by the bacteria. The body resists the invasion of these bacteria by the production of a series of protective substances—antibodies—which either directly destroy the germs or stimulate the white blood corpuscles to eat them up. In other words, the live bacteria not only produce the disease, but they also call up in our bodies an antidote to the disease—a natural cure.

But it has now been discovered that the dead bacteria act like the live ones, in so far as the stimulation of the manufacture of antibodies is concerned, whereas they are, of course, unable to produce the disease.

If the cold is found to be attributed to a single organism, a specific vaccine should be employed; but if, as is usually the case, it is found that several organisms are implicated, a mixed vaccine is used.

In people who are susceptible to colds, the anti-catarrhal vaccine should be given in the autumn. Five doses, 2 days apart, will usually be sufficient, but in some cases it may be necessary to give monthly doses during the winter. It has been common experience that by this means people can be kept free from colds, who without this vaccine were having one attack after another.

Doctors as a body (myself included) have exhibited great scepticism respecting any beneficial action from a vaccine upon the inflammatory troubles of the mucous membrane, and I paid no attention to items of information appearing in the medical press respecting this treatment; but about three years ago my attention was called to the experimental work carried on by St. Mary's Hospital, in London, and the state-

ment that, for two years in succession, in a young girl's school, out of 280 pupils, they secured permission to vaccinate 254 during the month of October, giving five injections 2 days apart. Out of the number so vaccinated, there was not a single case of influenza and only 20 contracted slight colds, which were less severe in character than ordinary.

Out of the 26 whose parents refused permission to vaccinate, 3 were attacked by influenza that kept them from school from 2 to 6 weeks, and 16 were subject to colds which confined all but one of them to bed. This experiment was repeated the following year with a like result.

Having been subject to fall colds all my life, I practiced this treatment upon myself, taking, however, 10 hypodermic injections during the month of October, which is still a warm month in this climate. I have repeated this treatment for 3 years in succession, and from the beginning have been practically free from ordinary colds.

The vaccine employed consists of the following, to each ampule of 1 cc.:

Pneumococcus	50 millions
B. pneumoniae	25 millions
Staphylococcus	200 millions
M. catarrhalis	25 millions
B. septicus	25 millions
Streptococcus	10 millions

I am regularly using this treatment in my practice, with good results.

B. SHERWOOD-DUNN, M.D.
54, Bd. Victor Hugo,
Nice, France.

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[We wish to add our recommendation to that of Dr. Sherwood-Dunn and to urge that all who are subject to "colds" be protected by the timely administration of bacterial vaccines or bacterins.

In this country we are accustomed to use rather stronger vaccines, and to begin with smaller doses (0.1 to 0.25 cc.), increasing the dose with succeeding injections.

A very effective combination contains, per cc.:

M. catarrhalis	200 million
B. influenza	200 million
B. Friedlander	100 million
Streptococci	200 million
Pneumococci	200 million
Staphylococcus aureus and albus	300 million

At least 4 to 5 injections should be given, at intervals of 2 to 4 days, and the results should be noted.—ED.]

The Treatment of Influenza

NOW that the "flu" is with us again, I should like to pass on a prescription which I have used for the past ten years, as a basic treatment. Complications are treated as they arise, according to the indications.

℞. Quinine Hydrochlor.....gr. xii (0.80)
Acid Acetyl Salicyl.....gr. xxiv (1.60)
Acetphenetidin .....gr. xxiv (1.60)
Camphor Monobromat. gr. vi (0.40)

M. et ft. capsul. No. xii.

Sig: One capsule every 2 to 4 hours.

Do not forget nuclein, in large doses, if the patient is asthenic.

F. A. WIER, M.D.

Racine, Wis.

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[This prescription sounds reasonable; but we would make *nuclein* the sheet-anchor, injecting 1 to 2 cc., intramuscularly, every 12 to 24 hours.

The editorial on influenza, in the January number of CLIN. MED. AND SURG., gives our idea of the basic management of influenza. A combination like this suggested by Dr. Wier, adds, no doubt. to the comfort of the patient and may hasten recovery.—ED.]

The Health Work of the League of Nations*

IT WAS my privilege during the past summer to be a member of a group of 100 professional men, under the leadership of Sherwood Eddy, to make a study of economic, political, social and religious conditions in Europe, listening to and interrogating leading men in London, Berlin, Prague, Vienna, and Paris. At the headquarters of the League of Nations, in Geneva, Switzerland, we were joined by another group of 150 from English speaking nations and there made a study of that great international organization.

I was the only physician in our American group and naturally made a special study of the health and humanitarian activities of the League that have developed on a world-wide scale. Like many other Americans I had not *known* much about the League's work for the health of the

*Radio Talk over WGN May 9th, 1928.

world, and probably nine-tenths of my readers have never even heard of the Health Organization of the League of Nations. After my study I am prepared to affirm that, if the League of Nations had failed in all else, its health organization alone, in its successful achievements and program of humanitarian service, would justify the League's existence before the bar of enlightened opinion.

Article 23 of the Covenant obliges the members of the League "to take steps in matters of international concern for the prevention and control of disease". Epidemic disease is an international matter.

The history of the great plagues of the world will show the gradual growth of a feeling of international relationship. Men and nations do not live or die by themselves. Some of you remember the great epidemic of "la grippe" in 1890, which developed in Eastern China and Russia and, in a few weeks, swept around the world.

The world-epidemic of influenza in 1918 is still fresh in the minds of all. Dr. Norman White told us that, in India alone, during that one winter, six million people died of influenza alone. More people *died* during this one world epidemic than were *killed* during the entire World War.

The Health Organization of the League was the direct result of the Health Conference in 1920, to meet the oncoming epidemic of typhus fever that was sweeping west from Russia following the War. Typhus and relapsing fever had increased thirty fold in Russia and were spreading into Europe, by way of Poland. If the League had not grappled at once and effectively with this meance that was threatening those small and inexperienced border states, a world epidemic might have gotten started that would not have left America unscathed.

It is worthy of note that one of the first martyrs in the fight against typhus was our own Dr. Ricketts, of the University of Chicago, who lost his life while discovering and proving that typhus is contracted from the bite of an infected louse or tick. He found the cause, but not the cure for typhus. So in this critical time in Poland, the health commission mobilized a great medical force, clothes, soap, drugs, vaccines and delousing machines, with motor transport, food and fuel. Fifty hospital stations, with fifty beds each, were established in a north-and south line, for cure and quarantine. It was a great fight, and the plague did not sweep Western Europe, but 185 of the medical staff lost their lives, for there was no known vaccine to give protection. A monument in Poland tells of their heroic martyrdom.

Although, in this country, we still have much to learn in the way of cleanliness, we are fortunate to be free from those peculiarly horrible diseases which are spread by vermin. Under crowded conditions the control of vermin infestation is still a serious problem. At times these vermin take on tremendous powers of multiplication, like the plagues of Egypt in the days of Moses. There are great scientists who fear that man's greatest fight for survival will be with the insect world.

The prevalence of lice among soldiers in the World War was never equalled before. No army was spared from widespread infestation by vermin and the diseases transmitted by these pests. Over 90 percent of the troops were vermin-infested. Sometimes they were a real plague.

The story is told of a doughboy who had "cooties" and who went to a drug store and asked for a pound of "blue ointment". The druggist looked at him in a surprised way and said, "Why, a pound of blue ointment would kill a million cooties". "Give me *two pounds,*" said the doughboy.

After Dr. White's work in stopping land-borne epidemic diseases coming from Russia through Europe, he made a tour through the ports of the Far-East, which have been the center of the great sea-borne epidemic diseases. Again, most of these plagues are transmitted by the insect world. On his suggestion, a central station was set up in Singapore and reports from 150 towns are received there each week, reporting all epidemic developments. This epidemic news is sent by wireless all over the world. It is picked up by ships at sea, which are thus warned before entering any harbor where there is danger of infection. In the old days, Europe and America fought cholera when it reached their shores. One of Turner's famous paintings portrays the burning of a plague-infected ship in the river Thames. *Now* it is possible to be forewarned and attack the enemy before it arrives.

One great work of the League has been to secure joint action of the nations in combating the epidemic diseases of the

world. It is really the first experiment in international sanitary cooperation on a large scale.

As an example, in 1922, following the Greco-Turkish war in Asia Minor, a great stream of destitute refugees that soon reached one-fifth of the population began pouring into Greece. Terrible unsanitary conditions soon developed. The Greek government appealed to the League of Nations and Dr. Nansen, of Polar fame, was sent and a preventive medical campaign was organized. Ten vaccination columns advanced in the highest of all wars —the war against disease—and vaccinated over half a million refugees against small pox, cholera, enteric fever and other contagious diseases. The Greek government was helped in solving the tremendous sanitary problems that arose from this emergency.

The League of Nations literally has its fingers on the pulse of the world. Its medical experts, of international renown, find out how best to fight these great epidemic diseases, and this information is published for the benefit of all. It has brought experts together to discuss their work. It has arranged for doctors from various nations to work side by side in one laboratory, so that they could agree upon the best method of testing for certain diseases. It has arranged for tours of public health officers collected from nine to ten countries at a time, who visit a number of foreign countries and study their sanitary methods. The Health Section is a great "pool of information" which both receives and gives that knowledge which makes the world healthier and happier.

A. R. E. WYANT, Ph.D., M.D.,
Chicago, Ill.

Hyperpnea*

HYPERPNEA, or abnormally rapid respiration depends upon the accumulation of carbon dioxide (CO_2) in the blood and may be due to :

1.—Increased physical activity.
2.—Voluntary respiratory effort.
3.—Acidosis.
4.—Unusual shallowness of respiration.

No. 1, A: After violent exercise, hyperpnea persists for a time, which is short in healthy persons but prolonged in those who are diseased, especially cardiac patients.

B: In fever, due to increased oxidation.

C: In hyperthyroidism.

No. 2: A man may voluntarily increase the frequency or depth of his respirations, or both. If continued, this will lead to *acapnia*, with tingling and spasms in the hands and feet and possibly, at last, unconsciousness.

This may occur involuntarily in conditions of pain and fear and in *hysteria*. When appearing in disease it is called *Cheyne-Stokes breathing*.

No. 3: Air hunger is seen in severe *acidosis*, as in diabetes, before coma comes on.

No. 4: When the breathing is very shallow, as in pneumonia, hysteria, encephalitis lethargica, etc., the respirations are *speeded up* in an effort to overcome the lack of ventilation in the lungs and blood. The rate of respiration is of less importance than is the depth.

In these cases, give inhalations of a mixture of 95 parts of oxygen with 5 parts carbon dioxide.

We should use more CO_2 as a respiratory stimulant. It is better than atropine or alpha lobeline.

DAVID P. BARR, M.D.,
Prof.. of Medicine,
Washington Univ. School of Med.,
St. Louis, Mo.

*Abstract (By G. B. L.) of a lecture before the Interstate Postgraduate Medical Association, at Kansas City, Mo., Oct. 20, 1927.

Cow's Milk

WHETHER or not cow's milk, as compared with the milk of other domesticated animals, is nearest in composition to human milk, the development of the dairy cow has brought about the almost exclusive use of cow's milk as a substitute food for infants when artificial feeding, as an emergency measure, is unavoidable.

The milk of every animal is specially adapted to its offspring—varying with its average size, its rate of growth, and the length of time after its birth before other food can be taken. The difference in the chemical composition of cow's and human milk therefore is best explained by the fact that the calf doubles its weight in 47 days and the infant in 180 days.

Human milk has a little more than one-third the amount of protein in cow's milk and less than one-half the amount of mineral salts. The relative proportions of the

different salts differ remarkably little, though the percentage of iron is said to be higher in human milk than in cow's milk.

The fat content and the size of the fat droplet vary greatly in milk from different breeds of cows, but ordinarily there is not much difference in average amount of fat between cow's milk and human milk. The percentage of sugar (lactose) is about twice as high in human milk as in cow's milk.

The relative average difference in the vitamin content of the two forms of milk is not yet known. There is no reason, however, to doubt that the vitamin content of a woman's milk, as of a cow's, depends primarily on her diet, and probably also on her exposure to the direct rays of the sun. The occurrence of deficiency diseases —beriberi, scurvy and rickets—in breast-fed infants during the first months after birth, as well as later, gives startling evidence of the effect of inadequate feeding and hygiene of mothers.

Cow's milk, to be a safe food for anyone, must be clear and free from the germs of disease. This is even more important in regard to milk for infants than for older children or adults. Not only should cow's milk be pure, but the fresher it is and the fewer manipulations it has been subjected to, the less probability there is of its having been altered in any of its essential properties as a complete food. Knowledge of the fundamental nutritive qualities of milk is still incomplete, so that it can not be affirmed absolutely that heat, chemicals, or mechanical manipulations do not alter its nature as a food in some essential way.

If cow's milk is to be used, the questions next to be considered are, which form of cow's milk is the safest and the best adapted to the nourishment of infants, which is best suited to transportation, and which is available in all localities.

DOROTHY R. MENDENHALL, M.D.,
Washington, D. C.

The After-Care of Infantile Paralysis

AFTER-CARE is probably the most important public health function in an outbreak of infantile paralysis. In most cases this falls best upon the parents, who must first be trained by the family physician. It is the experience of most qualified observers that better results are obtained from the combination of physician and parent than where the management of the exercise has been left to an unskilled gymnast or masseur, who has neither the scientific knowledge of the physician nor the patience and personal interest of the parent. With all corrective measures, repeated trials are often necessary before the position, apparatus, or set of exercises best suited for the individual can be found, and changes from time to time are usually advisable.

The training of the muscles should be begun as soon as the patient's limbs can be moved freely without pain. In some cases this will be within three weeks after the attack, and in some others after a much longer period. It is possible also to accomplish a great deal for cases that have been neglected for years. Premature manipulations, on the other hand, and ill-directed exercises, have often greatly retarded or prevented the maximum recovery possible. Allowing patients to be on their feet too soon and too much has perhaps caused more crippling than any other factor in the care or lack of care of these patients. Weight bearing is very deleterious to weakened muscles.

The principles which underlie the training of muscles which have partially or wholly lost their power of voluntary contraction as a result of infantile paralysis do not in any way differ from those underlying the development of normal muscles. The result in both instances is the improvement in the nutrition of the muscle fiber and in the facility with which the nerves carry their impulses.

In infantile paralysis the beneficial effects of muscular contraction on the circulation may be in part supplied by massage, heat, passive movements, etc., and these measures undoubtedly do, to a certain extent, prevent the wasting away of the paralyzed muscles. Wherever there is, however, the ability to contract a muscle even slightly by an effort of the will, the muscle cells are more favorably affected by this contraction than by any quickening of the circulation by other means.

Seriously weakened muscles should be protected against cold at all times, against stretching and against too much exercise. Any exercise may be too much at first.

In infantile paralysis certain nerve cells supplying a muscle are destroyed and those that are left, being unaccustomed to work together, perform their work badly without coordination.

The possibility of training nerves to work together with precision is shown in the formation of habits. Each time a partially paralyzed muscle contracts it not only improves the nourishment of its fibers, but also the coordination of the nerves which stimulate it.

The amount of improvement possible for any given muscle is, of course, proportionate to the number of uninjured nerve cells which supply it. This is an impossible thing to determine accurately and by far the safest plan in directing the exercises is to assume that every muscle is capable of attaining the normal.

In all exercise periods the whole attention of the patient should be required, or his ability to use his muscles will be much underestimated and the exercises will be much less effective. For this reason it is desirable that no person except the one who directs the exercises should be present. The presence of other children should be absolutely prohibited and no toys should be allowed. If the parents are ingenious the exercises themselves may be turned into an interesting game, without, on that account, making any sacrifice of precision in the performance of them. It must be realized, however, that there is no royal road of progress in the treatment of the serious aftermath of this disease; intelligence, skill, care, perseverance, and courage are all required.

U. S. PUBLIC HEALTH SERVICE

Bilateral Hernia Through the Broad Ligament

(A Case Report)

THE report of the case of twisted omentum, which appeared recently in the *Seminar* (see CLIN. MED. AND SURG., Oct., 1928, p. 755) called to mind an interesting case of mine.

I was called to see a very sick woman who had been taken suddenly with terrific pain in the belly.

Recognizing that it was a case of what is carelessy called "acute abdomen", probably due to appendicitis, I removed her to the hospital as promptly as possible, where a laparotomy was performed without delay.

The appendix, though normal, was removed.

In each broad ligament, a kidney-shaped fenestrum was found, measuring about 3x1¼ inches (7.5x3.0 cm.). Through each of these a loop of intestine had herniated, the one on the right being twisted, causing obstruction of the bowel. The free edge of the right broad ligament was rolled over and entirely gangrenous.

I removed both broad ligaments, trimming them close at both ends. As the injured bowel resumed its normal color, I replaced it and closed the abdomen without drainage.

The patient recovered uneventfully, except for some gaseous distention, due to the injured bowel, and returned home on the fourteenth day.

P. H. PRITHAM, M.D.

Greenville Jct., Maine.

[This is a decidedly unusual and interesting case. We wish that the report were more detailed and that pictures of the condition were available.

As to closing the abdomen without drainage, after the removal of gangrenous tissue, there will be some difference of opinion. The result was satisfactory in this case, but we believe that procedure has elements of danger. We are inclined to hold to the old dictum, "When in doubt, *drain*."—ED.]

The Efficient Country Doctor*

SOME people get the impression that a country doctor, especially in isolated districts, is inefficient, but I believe our results compare favorably with those of our confreres in the cities.

My laboratory work is confined to uranalysis and blood counts. Bacteriologic examinations I send away. One must not depend too much on such examinations. They are a help, but can throw one off on the diagnosis at times, if depended upon too much. If a physician has made a study of physical findings, history and the psychology of the patient, and takes *time* to study the individual he can, as a rule, make a correct diagnosis and plan the necessary treatment. A positive diagnosis cannot always be made, even with the aid of an autopsy afterward.

I have watched with much surprise a patient put to the expense and annoyance of a blood count, uranalysis, metabolism test, x-ray examination, etc., when a lobar pneumonia was self-evident. I could not understand why the patient was put through all that ordeal unless it was to

*Title by the editor.

show the patient the doctor's "equipment". There is altogether too much of such work done.

Any good general practitioner can diagnose most of his cases with only the aid of a physical examination and uranalysis, and *be correct*. In suspected nephritic cases we must have the aid of the *ophthalmoscope*, which I use often. Many times it will detect a nephritic case before even albumin shows in the urine.

In children, always examine the reflexes, mucous surfaces and sinuses; make use of the hemoglobin test and inquire into diet and contagion.

Before prescribing for nervous troubles, headache and neuralgia, use Snellen's charts for a vision test. If the patient is under presbyopic age, it is best to use a mydriatic (homatropine preferred), unless contraindicated, owing to its quick effect and release.

We, in the rural districts can not keep our patients under observation for days at a time. They come to us to have something *done* for them, and done *very soon*, at that. Very often indeed I am faced with a critical condition in a patient, that calls for quick thinking and rapid work to prevent a demise. Thirty-five to fifty-five miles is a long way to send for assistance in an emergency. I have not had to do so for about a year and have had only two deaths in that time.

I am obliged to do my own dispensing and that causes me to carry a large supply of drugs, dressings, serums, etc.

I often have rattlesnake bite to treat and use anti-venin and ammonia. For dog-bite I use the Cummen's modification of the Pasteur treatment. Have had perfect success with both so far.

After making a diagnosis—permanent or tentative—I treat the condition or conditions vigorously, externally and internally. What drugs are given are generally pushed to their full therapeutic effect. I use the regular, homeopathic and eclectic treatments, massage, suggestion and hypnotism —anything to get the patient back on the job.

I believe that many cases of rheumatic fever are caused by other agencies than the streptococcus. Many cases of anemia or lowered hemoglobin content of the blood are diagnosed as rheumatism. The same applies to neuralgia.

I have seen pleural and pulmonary tuberculosis diagnosed as pellagra, to save the time required to make a good, thorough physical examination. All of us will and do, at times, overlook a good "lead" in order to save time, but nearly always, afterward, have good reason to regret it.

I believe we are neglecting another good field of endeavor. We could save some, at least, of the teeth that are extracted because of pyorrhea. I know I am doing so, for part of them. Pyorrhea, if not altogether too far advanced, can be cured.

Then again, there are too many tonsils sacrificed. I firmly believe that they are of assistance to the thyroid and especially to girls and women during maturity and child bearing age. Again, tonsil enucleation is *attempted* by some who could make good use of "Gray's Anatomy". One patient came to me with one of the most severe cases of quinsy that I ever saw. He told me that he had had his tonsils "*taken out four times*".

The general practitioners do not often write articles for medical journals, because we can not speak the language of the modern laboratory. But as I have often heard that grand physician and teacher, Dr. Beverly Robinson, say: "We know a thing or two." According to another, we do have, "Absolute self-reliance or confidence, an abundance of grit, and more or less good common sense, with a general knowledge of medicine and surgery."

We do much reading of journals and books, as we find the time. Generally upon returning from a call or after a patient has left the office, we, as soon as possible, look up the case in our journals and books. The former I keep indexed as they come, so that I can easily find what I want.

The physicians in this part of the country are especially well-read and qualified, which makes competition keen and pleasant. Their success in practice is fully up to that of others, notwithstanding all their disadvantages. We have splendid and well-equipped hospitals and sanitariums, all doing excellent work. For my part, I read several different medical journals, the "International Clinics" and the "Year Books". I also buy several new books each year.

E. J. Hay, M.D.,
Rogers, N. M.

[We have had, for some time, a feeling that the practitioner who complains of the smallness of his practice and his income would do well to look for the cause in himself, rather than in his environment.

Here is a man, far away from what we consider the refinements of civilization and the advantages of modern "scientific" Medicine, who is practicing his profession joyously and successfully. His hints as to how he does it are worthy of careful study and profound thought.—ED.]

Physiology and Mental Healing

THE article by Dr. Bieler (see CLIN. MED. AND SURG., Nov., 1928, p. 825) is the first sign of a rational attitude toward the "cults" that I have seen. The prevailing practice is to damn them, regardless of results, but I have reached the belief that there must be a grain of truth in anything to secure its continued existence. There is a need and a demand for certain types of treatment which the medical profession is not meeting. Why should we rail at those who *do* meet this demand, if we will not

If we study the alleged cures worked by the irregulars, in cases of organic disease, we can, as a rule, find rational, physiologic principles underlying them, which we might have used if we had had the necessary sense and vision. Here is a case in point:

A young man suffered a compound, comminuted fracture of the femur, which was treated by a physician, after which the patient lay in bed for thirteen months, with no signs of bony union.

At the end of this time a surgeon was called, who announced that amputation would be necessary. The family refused operation and, in order to show them that no union had occurred, the surgeon twisted the leg violently, causing the patient agonizing pain.

The surgeon was abruptly dismissed and, at the suggestion of a neighbor, a Christian Science practitioner was called in and went into "the Silence" to treat the broken leg.

Within a few days the fractured bones began to heal, and progress was steady. In six months the patient was able to walk.

The family came to me triumphantly with the attitude: "What have you or the medical profession to say to this?" My answer was along these lines:

"This case is easy to explain without turning to the supernatural. You have, no doubt, frequently noticed that a jar of strained honey will remain clear for months; then, suddenly, it will begin to 'candy' and will continue the process until the entire contents of the jar is solid. You know that this is the process of crystallization and that it is started by some shock or disturbance. A process, in some respects similar to this, has occurred in the case of this patient.

"You have damned the surgeon and blessed the Christian Scientist; but if you had called the 'practitioner' *before* you called the surgeon, the result would have been far different. I do not say that the faith healer did nothing, but the laws of physiology were at work.

"The rough handling by the surgeon gave the leg a shock, which was needed to set up a productive inflammation, bringing fresh blood to the injured parts, and the process of healing would have taken place without calling the Christian Scientist, though the mental attitude of cheerfulness and hope which she inspired in the patient and the family, no doubt was a factor in the cure."

The family was satisfied and seemed really glad to have this cure explained along natural, scientific lines.

F. G. DE STONE, M.D.

Modesto, Calif.

The Preservation of Health and Life

IN HIS inaugural address, as President of the American College of Surgeons, delivered at Boston, Oct. 8, 1928, Dr. F. H. Martin spoke of the evolution of scientific clinical medicine and surgery from the earliest times to the present day, the benefits that accrue therefrom to the public, where accepted, and the dangers that attend the acceptance of the services and teachings of irregular practitioners.

Dr. Martin considers that the following conclusions may fairly be drawn from the data which he presented:

1.—That longevity, which was, on the average, 58 years in 1928, will be 65 years in 1930.

2.—That, by 1935, middle life may be expected to reach an average extension to 80 years.

3.—That, by 1940 or 1950, the upper limit of old age may be expected to reach 100 to 110 years.

4.—That sudden deaths in middle life are due to neglected degenerative diseases. That yearly health examinations will detect the beginnings of the diseases of middle life and that their appropriate treatment will prevent or postpone their development. Such periodic health examinations, which guard against all preventable and many curable diseases, are urged upon old and young.

5.—That it is *orgies* and over-indulgence in eating and drinking, rather than overwork, that destroy health and shorten life.

6.—That more than 20,000,000 persons in the United States now seek or have periodic health examinations.

7.—That two-thirds of the people of the United States morally and spiritually favor the 18th Amendment to the Constitution and that the foundation has been laid for a demonstration of race betterment and extension of life.

8.—It is estimated that, within the next ten years, 50 millions of our people will accept the program of yearly health audits to conserve personal health as readily as they now accept the protection provided to the masses by public health activities.

Potassium-Bismuth Tartrate in Syphilis

(A Case Report)

THE following is a resume of an interesting case:

M. L., a young, adult, married female age 19, came to my office Agust 23, 1928, complaining of sore throat and also that food and liquids that she took by mouth came out of her nose.

Examination revealed a perforation of the palate, in the midline above the uvula, about the size of a dime. The surrounding tissue was edematous and inflamed. There were no other complaints and no other signs, except a small tab of membrane above the left tonsil, that would indicate a perforation of the palate in the past, that had healed. The blood Wassermann test, taken Oct. 23, 1928, was strongly positive. Two years before, this patient had a child that lived only 3 days after birth.

No other treatment was given except potassium-bismuth tartrate with Butyn; dose 0.2 Gm. weekly, for 12 doses. The medication was given intramuscularly in the right and left gluteal regions alternately.

The perforation started to show signs of becoming smaller after the second dose.

The edema and inflammation around the perforation was entirely gone after the third injection. After the 12th injection, the perforation is now the size of the head of an ordinary pin. The patient is feeling fine, has gained 8 pounds, and is now 3 months pregnant.

I cannot speak too highly for the efficacy of this preparation in the treatment of secondary and tertiary syphilitic lesions. The local and general reactions are practically nil, and the general results are excellent.

W. NEWTON LONG, M.D.
York, Pa.

(Continued from p. 112)

nize that we are dealing with a case of fracture of the clavicle.

The patient is a young man of twenty-seven years, who was admitted to the American Hospital a few days ago. He has met with an automobile accident, which resulted in the fracture of the left collar bone. You will notice that the middle of the clavicle is completely divided, in a somewhat irregular fashion. The outer half of the bone is split into two halves; the upper fragment pointing upward and outward, and the lower one pointing downward and inward.

What I should like you to discuss with me is, how would you treat this case?

There is nothing of importance in the patient's history, either in his past or his present *curriculum vitae*. He is organically sound, as shown by the Hospital records, his temperature, pulse and respirations are normal. His urine is free from pathologic products. His blood Wassermann test is negative. In other words, the patient is a perfectly normal man, except that we find swelling, crepitus and an apparent deformity overlying the left clavicle region. The x-ray findings speak for themselves.

Requirement: How would you manage such a case?

THE LEISURE HOUR

Beggars In Mexico

By George B. Lake, M.D.

1.—This stalwart young man finds carrying his crippled mother about on his back to beg a less tiresome way to earn a living than doing a real day's work.

IN THIS country the "panhandlers" are rather furtive gentry and are not highly regarded by the populace. In Mexico, however, the conditions are (or were, a few years ago) quite other. Begging was looked upon as a fairly respectable profession (so also was highway robbery, up to a few years ago) and enjoyed a certain degree of semi-official protection. The result was that beggars infested every city and *pueblo* in the republic.

Some people bathe because they really enjoy it; some because the doctor says that bathing will promote health and longevity; but the Mexican beggar bathes once a year ("whether he needs it or not"), on St. John the Baptist's day, because the Church requires it as a religious observance.

2.—An elderly beggar—not so ragged as some—with a cataract and a whine.

When you see a beggar forty or fifty years old it is hard to believe that he is not much older than that, because it seems impossible to believe that a man could get so unspeakably dirty and ragged in a mere forty or fifty years. When their clothes become so well-ventilated that you can see two-thirds of their meat shining through, they put on another garment or two over them and go blithely on. In this way, one

has an opportunity to observe several layers of rags on one human scarecrow at one time.

If these creatures have a club foot, a harelip or some other mutilation or deformity, especially a nice, pussy sore, they make the most of it to excite the sympathy of prospective contributors. Lepers used frequently to capitalize their infirmity in this manner. Maybe they still do.

Somtimes a beggar who has made a stake will take up some useful line of employment, but when they have become used to living on easy money few of them develop a stomach for work—any more than we do!

An 18th Century Prayer

Give me a good digestion, Lord, and also something to digest,
Give me a healthy body, Lord, with sense enough to keep it at its best.
Give me a healthy mind, good Lord, to keep the good and pure in sight,
Which, seeing sin, is not appalled but finds a way to set it right.
Give me a mind that is not bound, that does not whimper, whine or sigh.
Don't let me worry overmuch about the fussy thing called I.
Give me a sense of humor, Lord; give me the grace to see a joke,
To get some happiness out of life and pass it on to other folk.

—*The Churchman* (*New York*).

When Conscience Stirs

A writer says that people can always collect debts if they go the right way about it. We hear of a man who was shamed into paying his tailor's bill because of an intimation on the bottom, "A remittance will surprise."—*London Opinion.*

Uncanny Numbers

In the *Dental Craftsman* for June, 1928, we find some interesting facts regarding the number 9. It was discovered by W. Green in the latter part of the 18th century that by multiplying 9 by any figure the sum of the resultant figures will inevitably add up as 9. Thus:

"Twice 9 is 18; add the digits together, and 1 and 8 is 9. Three time 9 is 27, and 2 and 7 added make 9. So it goes on up to 11 times 9, which gives 99; 9 and 9 added make 18, and 1 and 8 are 9. Go to any extent and you cannot get away from the figure 9. For example, 9 times 339 is 3051; add the digits together and they make 9. Again, 9 times 5071 is 45639; the sum of these digits is 27; and 2 and 7 is 9."—*Patchwork.*

A Polite Retort

The daughter of a certain strict-principled old deacon had attended a dance the previous night, much against her father's wishes. When she appeared for breakfast the next morning, he greeted her with the words.

"Good morning, daughter of Satan."

To which the maiden respectfully replied, "Good morning father."—*Cornell Widow.*

A Heavy Haul

"The Chicago Avenue police also raided a flat at 57 West Huron Street, where they arrested two men and seized a supply of beer and moonshine, the Colonial hotel, 671 North Clark Street, and a flat at 506 Rush Street."—News note in *Chicago Tribune,* Dec. 10, 1928.

Owlish

First Negro: "Whaffo' you lookin' so unnecessary, Glutinous?"

Second Negro: "Ah feels like a dumb owl, Predicament."

"Reveal yo meanin, man."

"Ah jes don't give a hoot."—*Tid Bits.*

My Paw

Maw sez the two standards of moralitee
Is causin a state of the morals that's loose,
And she says the rule of the game otta be
The same fer the gander they are fer the goose.

But Paw sez these notions is not worth a cuss
They're preachin these modern high brow days,
For no feller *can* be as polyga-mus
As most of the wimmen is now days.

—B. H.

Thumbnail Therapeutics

Post-Febrile and Post-Influenzal Invalidism

For persistent invalidism or semi-invalidism, following fevers or influenza, ultraviolet radiation of the whole body has given very convincing results. A standard distance of 30 inches was always used, increasing the dose by longer exposures.

Of 30 cases treated, 23 were quickly returned to their former health and work. All other methods of toning up the patient should be used conjointly. — DR. B. H. SHERMAN, Dexter, Iowa, in *Arch. Phys. Therap. X-Ray, Radium*, March, 1928.

The Common Cold

The common cold is dual in character, namely: primarily, congestive, and secondarily, bacterial and inflammatory. Further, abortive measures that are the reversal of the causative factors in the congestive stage, if taken before the bacterial invasion, will satisfactorily and rapidly relieve the cold. After the bacterial invasion the abortive measures will not suffice, but must be accompanied by further attention to the bacteria involved.—DR. A. F. BURDICK, Lansing, Mich., in *Eye, Ear, Nose and Throat Monthly*, Oct., 1928.

Give Diphtheria Antitoxin

Antidiphtheritic serum is as much a specific in diphtheria as quinine is in malaria.

The practice of giving diphtheria antitoxin in all cases of sore throat, in which any doubt exists, *without waiting for a laboratory report*, should be more common than it is. Delay results in needless deaths. —*International Med. Digest.*

Vaccines in Pneumonia

Striking results have been obtained by treating pneumonia with stock vaccines in the Cook County Hospital, Chicago. Two hundred thirty-six (236) treated cases are compared with 274 control cases. The total mortality in the vaccine-treated cases was 28.1 percent and in the control cases 42.1 percent. Similar results were obtained by other investigators cited. The vaccine used included the influenza bacillus, the pneumococcus, streptococcus, micrococcus catarrhalis, staphylococcus aureus and staphylococcus albus. No untoward reactions have been observed.—DR. DON C. SUTTON, in *Illinois M. J.*, April, 1928.

Serum Calcium and Nephritis

Among the indications for calcium therapy should be included severe nephritis, in which the total calcium of the blood serum is definitely reduced. A low value of serum calcium is a definite accompaniment of many diseases.—DR. F. R. FRASER, in *Brit. M. J.*, Oct. 29, 1927.

Effects of Camphor, Eucalyptol and Menthol on Nasal Mucosa

From clinical experiments it has been found that camphor and eucalyptol, in strengths up to 5 percent, have little, if any, local action on the nasal mucosa, contrary to common belief.

Menthol acts as an irritant to the mucosa in dilutions as low as 0.5 percent. Its acton is local only, producing a sensation of patency.—DR. NOAH FOX, in *Arch. Otolaryngol*, Aug., 1927.

Acute Rheumatic Conditions

In the acute stage of rheumatic fever, whether in children or adults, vaccine treatment should be entirely avoided.

The use of salicylates in full doses, combined with appropriate alkali-producing drugs, is the safest and best remedy in this stage.

In exceptional cases of true acute rheumatism in adults, where response to salicylate treatment is tardy, anti-streptococcus serum of appropriate type may be given. The initial dose should be quite small—5

cc. subcutaneously. If no unpleasant symptoms result, a dose of 20 cc. may be given in 6 hours and this may be followed by two or three further doses of 20 cc., at intervals of 24 hours.—SIR WM. WILLCOX, M.D., London, Eng., in *Lancet*, July 28, 1928.

Ultraviolet for Preventing Colds

A few minutes radiation of the bare torso, the mercury vapor lamp placed thirty inches distant, used once weekly during the dark months, on fifty-eight patients (four groups), lowered the occurrence of colds by from 27.9 to 40.3 percent.—DRS. G. H. MAUGHAN and D. F. SMILEY, in *Preventive Med.*, Jan., 1928.

Calcium Therapy

There is a rational basis for the intravenous or oral administration of calcium in the treatment of bronchial asthma, hayfever, serum disease, spastic colon and spastic pylorus, relief of pain in tuberculous enteritis, nephritis edema, tetany, epilepsy, hemoglobinuria, purpura, jaundice and recurrent pleural effusion in pneumothorax. —DR. D. O. ASHWORTH, in *Virginia Med. Monthly*, March, 1926.

Bacteriophage for *B. Diphtheriae*

After various attempts, a bacteriophage, active against *B. diphtheriae*, was isolated from the feces of antitoxin horses. This phage was active against three of nine strains of *B. diphtheriae* but failed to lyse the other six. It had no lytic activity for related or unrelated bacteria.—J. A. KLOSTERMAN and KATHRYN W. SMALL, in *J. Exper. Med.*, Jan., 1928.

Deep-Seated Pain and Diathermy

Based on personal treatment of numerous cases of deep-seated pain, most deep-seated inflammations that are not associated with pus, whether acute or chronic, may be relieved, many times permanently, by the proper application of diathermy.—DR. B. H. SHERMAN, Dexter, Iowa, in *Med. Herald*, Jan., 1928.

Prevention of Measles

Tunnicliff's immune goat serum appears to be a reliable measles prophylactic, if given within 3 days of exposure. If given later, it is likely to modify an attack of measles should the latter develop. The serum should be given intramuscularly, in 5 cc. doses, as a rule. If more than 3 days have elapsed since exposure, the dose should be doubled. The serum does not confer a permanent immunity. — DR. ARCHIBALD L. HOYNE, *Illinois M. J.*, Feb., 1928.

Anesthesia for Bronchoscopy

Always use a *general anesthetic* when performing bronchoscopy or esophagoscopy. It keeps the patient quiet, and the saliva can be taken care of by a mechanical aspirator.—DR. EDWIN MCGINNIS, of Chicago.

Irradiated Ergosterol and Parathyroid Tetany

A woman, 36 years old, had her thyroid partly removed 15 years previously and, since that time, constantly suffered from chronic parathyreoprival tetany, which all the usual methods of therapy failed to relieve.

Six weeks of vitamin D treatment, in the form of irradiated ergosterol, sufficed to render the patient objectively and subjectively symptom-free,—DR. A. STERN, Charlottenburg, in *Deut. med. Wchnschr.*, Aug. 3, 1928,

Diet in Asthma

Adam, in his book on "Asthma", says it is impossible to treat asthma satisfactorily in a person who includes large quantities of milk in his diet. It is my experience that the omission of milk from the diet of a person suffering from bronchospasm helps him further along the road to recovery than any other thing I can do. In particular does this apply to children, in whom catarrhal conditions are commencing.—DR. F. HARRINGTON, North Shields, Eng., in *Am. Med.*, Feb., 1928.

Current Medical Literature

The Common Cold

While available evidence does not permit definitely accepting the aerobic bacterial flora as the cause of the "common cold", yet they are at least organisms of great secondary importance, with the possibility of their being the primary etiologic agents concerned in reducing local tissue immunity.

In the *Med. Searchlight*, Dec. 1, 1928, Dr. John A. Kolmer, of Philadelphia, states that he personally leans to the view that the "common cold" may be produced by one or more of the aerobic organisms, and especially by staphylococci, M. catarrhalis, streptococci and pneumococci, derived by contact with previous cases through "droplet" infection; or that some cases may arise from organisms of this group found in the atria of the nose when exposure or sudden temperature changes, and especially heat, has, in some unknown manner, reduced the local tissue immunity or resistance of the nasal mucosa.

Stock vaccines containing the usual aerobic bacteria mentioned may be tried and for adults may contain 1,000,000 per cc. The first dose may be 0.5 cc. followed, at weekly intervals, by three additional doses of 1 cc. Children of from 3 to 12 years may receive one-third to one-half of these amounts.

Dr. Kolmer commonly uses a mixed autogenous and stock vaccine which he believes gives the best results.

About 60 percent of the patients vaccinated during the early autumn months enjoy a freedom from common colds for a period of from 4 to 8 months, and not a few for much longer periods.

If a vaccinated individual should have an attack it is usually of short duration and slight.

Subjects for vaccination should be carefully selected, as the presence of polyps, anatomic defects, sinus infections and adenoids constitutes contraindications to active immunization.

Acute Laryngotracheobronchitis

Dr. H. L. Baum, Denver, in J.A.M.A., Oct. 13, 1928, reports 24 cases of acute laryngotracheobronchitis of such severity as to require the introduction of a tube to prevent asphyxiation.

The disease in question usually develops in the course of an acute respiratory tract infection, most frequently during the seasonal epidemics. The condition frequently bridges the gap between the beginning of an infection in the upper respiratory tract and its final manifestations in the lungs in the form of bronchopneumonia, or, occasionally, lobar pneumonia. The simple tracheobronchitis, so frequently a part of these infections, is not the type under consideration, although it is undoubtedly a less severe form of the same malady.

In this disease the respirations become definitely embarrassed; suprasternal, supraclavicular and epigastric retraction appear, and the patient gradually develops cyanosis. The patients—usually very young children—are suffering from laryngeal obstruction and, in addition to their toxemia and inadequate oxygenation, they are subjected to the most severe physical strain imaginable, which throws a terrific burden on the heart. Emergency *intubation* or *tracheotomy* results in an immediate restoration of normal color and complete relief from all symptoms of immediately serious import.

The youngest patient in the author's series was 7 months old; the oldest 9 years.

Tracheotomy alone was done in 13 of the 24 cases; intubation alone in 7. In 10 of the cases it was necessary to remove bronchial plugs or aspirate obstructive secretion; bronchial pneumonia developed in 7 cases, lobar pneumonia in 3 and influenzal pneumonia in 2.

Of the 24 patients, 10 died. All the fatal cases were of the epidemic respiratory type. Pneumonia was the immediate cause of death in 9 cases.

Streptococcus hemolyticus was recovered from the bronchial secretions in 8 cases; streptococcus viridans in 2.

This very serious condition should be more clearly recognized by internists and pediatricians.

Fever Regimen

Dr. D. G. Fournad, New York, in *M. J. & Record*, March 21, 1928, gives the following regimen for fever patients:

Diet: B. *Acidophilus* milk, orange juice, water and lemon juice. Four to 6 ounces of cold water are administered. One hour later 4 to 6 ounces of diluted orange or lemon juice are given. In 24 hours the patient receives about 6 doses of milk, 6 doses of fruit juice and about 12 glasses of water.

Special conditions of the patient may necessitate a modification of this diet.

Elimination: Maintained by a daily soapsuds enema at about 101°F., followed by a pint of saline enema at about 85°F.

Complications: Hypostatic pneumonia, bed sores, etc., are prevented by changing the patient's position every 2 or 3 hours.

Febrile Temperature may be controlled by witch hazel ablutions, by ice-water packs, etc. Alcohol and witch hazel ablutions are best.

Pain and Restlessness: Phenobarbital, barbital, the bromides, salicylates, etc., may be employed. A hot or cold pack, an electric pad or even a hot-water bottle may give relief.

Care of Skin, Etc.: A daily sponge bath is indicated in all fevers. The mouth, throat, scalp and feet should have special daily attention.

Cardiac Stimulation: Most fever patients need a cardiac stimulant. Air, light, quietness and cleanliness in the sickroom are essential.

Serum Therapy in Scarlet Fever

Serum from scarlet fever convalescents has been used in the treatment of scarlet fever for many years and is established as a valuable therapeutic measure.

In J.A.M.A., May 19, 1928, Dr. J. E. Gordon and his associates report that, in 1508 cases of scarlet fever of different degrees of severity, scarlet fever streptococcus antitoxin was used in the treatment of 1021 who showed, in general, moderately severe or severe infections. A smaller group, 120, all severely ill, received convalescent scarlet fever serum.

Scarlet fever streptococcus antitoxin exerts a favorable effect in reducing the severity of the febrile stage of the disease, on the course and duration of the fever and on the extent and duration of the skin lesions.

Complications are less frequent in patients receiving scarlet fever streptococcus antitoxin. Judged on the basis of the case fatality rate and the percentage incidence of complications, there is no essential difference between cases of severe scarlet fever treated with scarlet fever streptococcus antitoxin and with convalescent serum.

The absence of serum reactions after convalescent serum therapy makes it the more desirable. Reactions after scarlet fever streptococcus antitoxin depend largely on previous sensitization to horse serum and should not detract from its general use.

Toxin-antitoxin mixtures, which include minimal amounts of horse serum, sensitize a majority of persons to subsequent injections of horse serums.

Salihexin in the Treatment of Arthritis

It is probable that infection plays a role in a large percentage of cases of arthritis. In *M. J. & Record*, Dec. 5, 1928, Dr. E. P. Corson-White, of Philadelphia, following the treatment of a series of cases, states that it is certain that Salihexin, administered intravenously, is of the greatest value in those cases presenting the most evidence of infection. Altogether, 30 unselected cases were treated, many of the patients having already been treated by other means for years. There were 5 cases of arthritis deformans of a duration of 17 years, on the average; 17 cases of chronic infectious osteoarthritis, of an average standing of 26 months, and 8 cases of degenerative osteoarthritis, of an average duration of 6 years.

The improvement in the true arthritis deformans group was slight. All but four of the entire 30 cases showed a definite improvement in general health after Salihexin treatment; e.g., an increase in hemoglobin and red blood cells. Pus, which was generally present in the urine, either disappeared entirely or materially decreased in consequence of the Salihexin injections.

In no case was there any reaction, immediate or delayed, after the administration of the drug. In 20 of the 30 cases, only one course of 15 doses was given; in 7 cases two courses were given. Every patient was carefully examined before and following the administration of Salihexin so that the exact effects of the drug could be determined.

The author is of the opinion that Salihexin fills a definite place in the therapy of arthritis.

It should be noted that Salihexin may be administered orally as well as intravenously, and that it is far less toxic than the salicylates.

Contraceptive Methods

Dr. Norman Haire, of London, Eng., in an article reprinted from *Proceedings of the First International Congress for Sexual Research*, Berlin, 1926, gives his opinion of the comparative value of current contraceptive methods, based on his study of more than 4,000 cases seen in six years.

The percentage of failures of preventing conception by the different methods is shown in the following table:

Method	*Failure*
Safe Period	100.00 percent
Coitus Interruptus	69.50 "
Holding Back	100.00 "
Quinine Suppositories	70.80 "
Douche	73.50 "
Condom	51.14 "
Cervical Pessaries	87.5 "

The combined method of the occlusive pessary, plus a contraceptive (lactic acid) jelly, plus a douche is stated to be perfectly harmless and undoubtedly the most reliable method available at present; but in the presence of a torn perineum it is not advisable because, in such circumstances, one cannot depend on the pessary being retained in position.

Dr. Haire stresses the necessity for the study of contraception by the medical profession. Unless the profession devotes far more attention to this matter, the birth control movement will remain in the hands of unqualified lay persons, quacks and charlatans.

Emergencies in Diphtheria

Dr. J. E. Gordon, Detroit, Mich., in *J. Michigan M. Soc.*, Nov., 1928, discusses the treatment of the emergencies of diphtheria; namely, late cases with marked toxemia and edema of the cervical tissues; instances of generalized paralysis developing weeks after the initial illness; and those cases with membranes of the larynx.

Three general principles govern the management of these patients: antitoxin, rest and fluids. As regards antitoxin, a practical procedure calls for 10,000 units if there be membrane on one tonsil; 20,000 with membrane on both tonsils; 30,000 if it has extended to the uvula or soft palate; and a minimum of 40,000 if the nasopharynx or nose is involved. Usually 40,000

suffices for the severest cases, but 100,000 units may be necessary.

In desperate cases, serum by the intravenous route may be necessary, and the danger of anaphylaxis must always be considered. There are certain methods which are not generally practicable, and the author has adopted the practice of diluting the serum with relatively large amounts (500 cc. for adults; 250 cc. for children) of physiologic saline solution and injecting, by gravity under barely positive pressure. By this method the author has never had to discontinue an injection because of the anaphylactic symptoms and only a few accelerated reactions have been noted.

In regard to fluids, physiologic salt solution can be given by the intravenous route practically without pain and with little or no resistance on the part of the patient (100 to 400 cc. repeated two or three times within 24 hours).

The association of diphtheria and Vincent's infection is not uncommon. The use of neoarsphenamine, intravenously, will clear the throat from membranes within 24 hours.

Regarding respiratory paralysis following massive diphtheria, nutrition should be maintained by rectal or tube feeding; strychnine in full doses is of value; alcohol may have stimulative effects and also has a high caloric value; glucose (dextrose), intravenously, is of value. Every effort must be made to prevent respiratory collapse. Frequent aspirations of the throat by suction and oxygen inhalations at the critical period may be life-saving.

In laryngeal diphtheria, the real essentials are eternal vigilance, a personnel trained in intubation and good nursing; but even then the mortality is high.

Tartar Emetic in Granuloma Coccidioides

About 88 cases of granuloma coccidioides—due to infection, usually fatal, by the organism *Coccidioides immitis*—are known.

In J.A.M.A., Sept. 29, 1928, Dr. C. C. Tomlinson and P. Bancroft, of Omaha, report a case in a man of 26. This man was a laboratory worker in the University of Pennsylvania and his work included investigation of the fungus under discussion. This case was successfully treated by intravenous injections of *antimony and potassium tartrate* (1 percent, in a dosage of 2 to 8 cc.). X-rays and other local treatments were also applied.

Oxygen Treatment of Pneumonia

In 1926, Barach introduced a new head tent which enabled a patient to live comfortably in an atmosphere in which the percentage of oxygen could be maintained at any desired degree of concentration. This apparatus was described in J.A.M.A., Oct. 9, 1926.

In *New York St. J. Med.*, Aug., 1928, Drs. J. R. Scott and J. S. Davis, of New York, describe their results in a series of 14 cases of pneumonia treated with Barach's oxygen apparatus. All these patients were desperately ill and cyanosed. In this series the patients were placed in an atmosphere containing 40 percent oxygen and kept there continuously for periods varying from 3 hours to 6 days. The object sought is to relieve the anoxemia.

The results in this series were prompt; cyanosis disappeared in every case within a few minutes; in 43 percent of the patients there was an improvement in pulse and respiration rates. Only 5 % of these 14 desperate cases resulted fatally.

The authors conclude that with desperately ill pneumonia patients, showing cyanosis, oxygen therapy may be a life-saving measure.

Glass Permeable to Ultraviolet Rays

Investigation of a sample of Sanalux, a new window glass permeable to ultraviolet rays, showed that there was a very considerable transmission in the mid-ultraviolet region, about 3000 A.u., where ultraviolet radiation is most absorbed by living substance. Here the transmission of *Sanalux* is 73 percent. At 2,900 A.u. the transmission is 64 percent. — Dr. C. C. Morrell, in *Brit. J. Actinotherapy*, Oct., 1928.

Vitamin A and Resistance to Infection

Drs. H. N. Green and E. Mellanby, in *Brit. Med. Jour.*, Oct. 20, 1928, stress the importance of vitamin A as an anti-infective agent. This vitamin has, since its discovery, been associated with *growth*, but it would seem that its importance in resistance to infection is probably as great.

The authors first show from the literature that several writers have associated propensities to certain infections with vitamin A deficiency.

In their own experimental animal work, tests were made with diets in which, so far as was known, all sources of vitamin A were excluded; there were also control experiments with diets including both vitamins A and D. Post-mortem examinations showed that, in practically all animals fed upon a diet deficient in vitamin A, some or many organs were found infected by micro-organisms and that nearly all such animals died as a result. The addition of vitamin D to diets already deficient in vitamin A made practically no difference. In none of the control animals, under the same general conditions but receiving an adequate supply of vitamin A, was any infective lesion found.

On the basis of the experimental facts it is suggested that vitamin A plays a significant part in raising the body resistance to infection, and that it is more directly related to such resistance than is any other food factor of which the authors are aware.

The authors believe that it is possible to connect common suppurative processes in man (nasal sinus infection, pneumonia, ulcers of mouth and eyes, etc.) with a deficiency of vitamin A in the food. The average human diet is known to be deficient in this vitamin.

An important matter referred to by the authors is the prominence which has recently been given to irradiated ergosterol as a source of vitamin D and the substitution of this source for cod-liver oil, long known favorably for its thera-

peutic effects now almost exclusively attributed to its contents of vitamins A and D. Such preparations of vitamin D cannot safely be substituted for cod-liver oil in treatment, and such teaching is erroneous, for, although vitamin D controls the calcification of bones and teeth, it has no direct power to promote resistance to infection in the same way as has vitamin A.

Effect of Antitoxin on Serum Reaction

A clinical study to determine the effects of therapeutic and immunizing doses of serum and immunizing doses of toxin-antitoxin on subsequent serum injections was made by Dr. Sophie Spicer in the Willard Parker Hospital, New York. The results, as published in J.A.M.A., June 2, 1928, are shown in the following table:

EFFECT OF PREVIOUS ADMINISTRATION OF ANTITOXIN AND TOXIN-ANTITOXIN IN SERUM REACTION

Type of Patients	Total	Giving No Serum Reaction	Giving Serum Reaction	Percentage
Number of patients Interviewed	237	203	34	14.47
Number of patients giving a history of not having received injections of any kind, previous to present illness	164	142	22	13.41
Number of patients giving a history of having received antitoxin previous to present illness	45	37	8	17.78
Number of patients giving a history of having received toxin-antitoxin previous to present illness	28*	24	4	14.28

*All these were patients with scarlet fever.

Previous injection of antitoxin, if not recently given, seems not to effect future serum administration markedly, as almost as large a percentage of serum reactions occurred in patients not having received previous antitoxic globulin injections as in those so treated.

Previous administration of toxin-antitoxin appears to have little or no effect on subsequent serum treatment.

The view of clinicians, who believe that the administration of serum for therapeutic and prophylactic purposes or the use of toxin-antitoxin is accompanied with grave danger of sensitization to subsequent administration of serum, is greatly exaggerated.

Bismarsen in Tabes Dorsalis

The excellent clinical results obtained by Dr. Norman Tobias, of St. Louis, in a series of cases of tabes dorsalis treated by Bismarsen are reported in *Am. J. Syphilis*, October, 1928.

Bismarsen was introduced into syphilitic therapeutics by Raiziss a few years ago and clinically tested out, with excellent results, by Stokes and Chambers, in the University of Penna. dispensary. It is a compound of bismuth and arsphenamine, administered by intramuscular injection. The drug is usually well tolerated with practically no untoward reactions.

Dr. Tobias' experience is in line with that of other clinical observers. He states that, from his experience in the series of cases tabulated, the effect of the drug on the serum reactions, its tonic and weight-increasing properties, beneficial action on the tabetic pains and the relative simplicity of the technic commend the use of Bismarsen in tabes dorsalis, especially since other methods of treatment have proved unsatisfactory. It is most promising in early cases of tabes, although old cases are also benefited to a greater or less extent.

In the author's series of cases, the average gain in weight was 9 pounds. Beneficial results were noted, on the average, about two weeks after beginning the Bismarsen treatment. In all the cases the lightning pains were favorably influenced and the ataxias to a lesser extent. The affect of the drug on the blood Wassermann reaction appears to be more marked than on the spinal fluid Wassermann reaction.

One of the points to which Dr. Tobias draws attention is that by vigorously massaging the site of injection, after administration of the drug, for one minute, pain can be reduced to a minimum. It is no greater than that of an ordinary bichloride of mercury injection.

Fatal Acute Intestinal Obstruction

Recent experimental work has demonstrated that there are two types of cases of acute intestinal obstruction: those without gangrene (simple) and those with gangrene (strangulated).

Death in the cases without gangrene is due to dehydration, loss of chlorides and starvation; but in cases with strangulation death ensues from toxemia.

Treatment in the two types is different. The simple types, before operation, should be actively treated by the intravenous administration of sodium chloride, dextrose and water. In the strangulated types, if peritonitis is present, any treatment may be hopeless; but, if there is no peritonitis, surgical operation should be preceded by intravenous injection of physiologic sodium chloride solution.—Editorial, J.A.M.A., June 2, 1928.

Physical Therapy and the Gall-Bladder

Based on 4,000 physical therapy treatments of all phases of gall-bladder diseases, Dr. C. L. Payzant, in *Arch. Phys. Therap., X-ray, Radium*, Aug., 1928, summarizes his views on the subject.

No case of acute disease of the gall-bladder should be treated by the physical therapist without consultation with a competent surgeon.

Physical therapy has a great place in the aftercare of patients who have had a gall-bladder operation, as many such have symptoms for years following operation, which may be obviated by physical therapy.

Diathermy will clear up the symptoms resulting from focal infections and from thickened bile in the gall-bladder, either in the presence or absence of cholelithiasis. It is applied in heavy dosage (1,000 to 1,500 m. a.), by large

block tin electrodes, placed posteriorly and anteriorily. The posterior electrode, about 6x8 inches, is applied opposite the seventh to the twelfth dorsal vertebra, close to the spine on the right side. The anterior electrode, 5x5 inches, is applied over the right hypochondrium. The patient lies on his back, the anterior electrode being kept in place by sand bags. Good contact between patient and electrodes is essential.

With diathermy, the increase in blood supply is immediate and intense, increasing metabolism and overcoming the stasis of an inflammatory process.

Vibration, the sine wave current and the static spark may also be used in gall-bladder diseases and have the same general effects as diathermy. All four methods work in the same way, under the same conditions.

Ephedrine in Asthma

Reports in the literature regarding the relief obtained by ephedrine treatment in cases of asthma have shown that it is most satisfactory.

In *Bull. Johns Hopkins Hosp.*, Sept., 1928, Drs. L. N. Gay and N. B. Herman, of the Department of Medicine, Johns Hopkins Hospital, report on the results obtained in 100 cases of asthma treated there by ephedrine and under observation for more than a year.

The cases were not selected and can be divided into 4 groups: Group 1, true bronchial asthma, due to hypersensitiveness; Group 2, true bronchial asthma, due to hypersensitiveness with secondary bronchitis; Group 3, asthmatic bronchitis, secondary to bacterial infection; Group 4, mixed cases.

The result obtained are shown in the following table:

RESULTS OF TREATMENT

Group	Prompt relief	Moderate relief	No relief
	Percent	Percent	Percent
Group 1—37 cases	86	8	6
Group 2—14 cases	79	14	7
Group 3—37 cases	54	35	11
Group 4—12 cases	66	25	9
Combined group —100 cases	71	21	8

The ephedrine was given by mouth and it was found that the uncomplicated true bronchial asthmatic attacks required the smallest dose—25 to 50 mgm. in 30 min.

As seen from the table, only 8 patients out of the 100 treated failed to obtain relief.

Surgical Diathermy of the Tonsils

Dr. E. M. Frecler, of New South Wales, in *Eye, Ear, Nose and Throat Monthly*, May, 1928, from a study of the literature and his own experience, says that the use of surgical diathermy for the elimination of tonsils is satisfactory, with correct technic and more especially when electrodesiccation is used. A Watson Mark I machine of about 800,000 revolutions per second. with foot switch, and a needle electrode are used.

Electrocoagulation is to be used only in very expert hands and then only with great caution and strict limitaton of the current and its effects on the tonsillar tissue. A gradual elimination of the tonsils is the procedure of choice.

The method, though unsuitable for children, is absolutely indicated for hemophiliacs and for those on whom it is risky to operate.

Much of the disagreement in the literature in regard to the use of desiccation and coagulation arises from the insufficient appreciation of the importance of correct technic and of the difficulty of limiting heavy currents in their action.

The Mind in Life Insurance

The insurance medical examiner should look out for early indications of mental disease. The thyroid gland and its functioning affects the mind; myxedema and cretinism are only advanced thyroid conditions. Nephritis easily follows upon chronic subthyroid functioning and nervous disturbances come in the wake.

Focal and other infections sometimes affect the mind. Remember the results of syphilitic infection.

The overworn, tired business man is sometimes on the borderline of serious mental trouble.

Brain tumor, which eats out the home of the mind, may often be discovered in its incipiency.

Look to heredity of nervous trouble.—DR. J. S. LANKFORD, San Antonio, in *Med. Insurance*, April, 1928.

Dermatology and the General Practitioner

The general practitioner, as a rule, fights shy of dermatology which to him is a jungle, more or less impenetrable. According to Dr. E. L. McEwen, of Chicago, in *Am. Med.*, May, 1928, clarifying and simplifying processes are at work within dermatology today which are and will be of genuine help to the general practitioner.

Increasing attention is being given to problems of etiology in skin diseases. There is an increasing recognition of infection, both external and internal, as a causation of skin diseases. Syphillis, lupus and mycosis fungoides are examples of this, and the near future is expected to show a number of discoveries in this connection.

There is an increasing recognition of the focal element in the internal infection cause of skin diseases. Distant infected foci will be shown to be the origin of many skin diseases which are at present of unknown etiology.

There is an increasing recognition of allergy as a factor in the causation of skin diseases, as a result of the intense study of the general problems of immunity. It has been shown that a skin which is in a state of active allergic reaction to some particular substance, is at the same moment reactive to a high degree to many other and seemingly unrelated substances. The number of dermatoses in which allergy has been proven or suspected as causative is very large and includes various types of so-called eczemas. In fact, the subject of eczema is becoming less

complex and it is no longer a general term to cover many dermatites.

With the decrease in syphilis, the liklihood that an eruption is syphilitic in nature is diminishing.

Finally, nomenclature and treatment in skin diseases is becoming standardized and less confusing.

Inhalation Treatment of Pulmonary Tuberculosis

In *M. J. & Record*, July 4, 1928, Dr. W. P. Nolan, New York, describes an inhalation method of treating pulmonary tuberculosis. His apparatus consists of a hollow, funnel-shaped chamber in which carbon and calcium powder is placed. There is an electric motor with a small fan which forces the powder into the patient's mouth through an inhaling tube. Treatments are taken once daily for a period of from 30 to 40 minutes.

The author claims that calcium salts and carbon in the lungs produce multiplication and migration of phagocytic cells, never destruction. Further, that fibrosis of the connective tissue and calcification by deposition of lime salts are produced in the diseased area. Histologically examined, the tubercle bacilli, seen after a few weeks of treatment, are changed in appearance and staining properties and the waxy capsule is lost. The virulence is also changed.

The usual duration of treatment is from 9 to 12 weeks. One hundred fourteen moderately advanced cases have been treated by this method during the past three years and no untoward effects occurred during or after the treatment in any case. In all patients the tuberculosis was non-active on discharge.

The treatment has been found by the author to be of distinct benefit in his cases. It is easily given at home under the physician's supervision and is an adjunct to other established methods of treatment.

Histologic Changes in the Skin Following Ultraviolet Irradiation

By recently devised methods of dermatoscopy, Dr. Max Popper, of Vienna, Austria, states, in *Urol. & Cutan. Rev.*, Aug., 1928, that he has been able to make histologic studies of the skin following exposures to the Alpine lamp. The same skin area was exposed progressively to increasing doses of light. Eight to ten exposures were made at intervals of 2 to 5 days and the reactions of the skin studied under the dermatoscope. The reactions observed can be divided into three states as follows:

1.—*State of erythema.*

Dilatation of superficial and deep capillary network in the dermis; beginning perivascular infiltration; papillary capillaries little changed; no pigment in the epidermis and dermis.

2.—*Stage of pigment formation.*

Vessels of the dermis slightly dilated; pronounced perivascular infiltration of the same vessels. Papillary capillaries greatly dilated and disc-shaped; rich basal cell pigmentation in epidermal pegs, particularly, and no dermal pigment.

3.—*Stage of completed pigment formation.*

Non-dilatation of the dermal vessels; pronounced perivascular infiltration of the same; some papillary capillaries dilated and some normal; basal cell pigment, clumped in kernel-like masses, increased in amount in some spots and decreased in others, rich dermal pigmentation appearing at the boundary of dermis and subdermal tissue.

The unexposed skin reacts with dilatation and infiltration of the dermal vessels, the exposed skin with dilation of the capillaries and pigment formation upon irradiation. Protective reactions, as shown by the perivascular infiltration, seem to occur chiefly in the dermis. The height of vessel reaction is reached before basal cell pigment formation. Consequently, basal cell pigment cannot be considered the most important participant in any protective mechanism possessed by the skin.

The Disappearing General Practitioner

Dr. M. L. Harris, of Chicago, in *J.A.M.A.*, Dec. 1, 1928, commenting upon the fact that many communities are sadly lacking in good general practitioners, while the number of specialists in some of them is as high as 30 percent, says that one of the reasons is the custom that prevails in most medical schools of permitting students to take too many hours of elective studies. Dr. Harris believes this is bad, as it stimulates the student to specialize.

Also, too much time is spent in laboratories and in experimental work so that the student is led to believe that disease is to be located in a test tube instead of in a living human being.

It is a mistake to permit students to spend too much time in original experimental or research work.

Some professors induce students to undertake a piece of original investigation to work out some point in which the professor is interested and which he may publish later as coming from his laboratory. This may be a good thing for the professor, but it takes the time of the student that ought to be spent to better advantage.

The function of a good medical school is to teach students and make them good general practitioners of medicine. Specialization is greatly overdone.

Female Sexual Dysfunctions of Mental Origin

Apart from neurotic disturbances which may produce sexual organic disease in women, Dr. Warburton Brown, of London, Eng., in *Am. J. Obst. and Gynec.*, April, 1928, says that repressed wishes in childhood later become the basis of unconscious ideas which react and not only are responsible for sexual behaviorism but actually produce sexual physical dysfunctioning.

The female child on discovering the anatomic difference between the male and herself, which she does not understand, develops an inferiority complex which is resented and expressed by as-

sumption of a male equality in every way. There is a hostility to the opposite sex which, in adult life, becomes expressed by frigidity, dysmenorrhea, amenorrhea, etc. The facts may be discovered by psychoanalysis and corrected by suggestion.

Insulin and Hypoglycemia

In the treatment of diabetic persons with insulin hypoglycemia may easily develop useless great caution is exercised. Clinicians have therefore had manifold opportunity to become familiar with an accidentally induced insulinic hypoglycemic shock syndrome that was new to them and was characterized by convulsive seizures or by transient loss of consciousness. Reports of this condition in children are not lacking in medical literature.

An acquaintance with this syndrome and with the methods of treating patients in whom it is present, as well as with methods of preventing it, is desirable for every physician who undertakes the management of diabetic children.—Dr. Lewellys F. Barker, in *Am. J. Dis. Child.*, May, 1928.

Radiotherapy in Angina Pectoris

Drs. C. Lian, R. Barrieu and A. Nemours in *Presse méd.*, Paris, June 23, 1928, report on the results of radiotherapy in angina pectoris. This therapy is based on Lian's idea that angina pectoris is the expression of cardiac plexus pain.

Twenty-six of 32 angina patients, treated during a year by radiotherapy, showed considerable improvement, the attacks becoming rare and slight. These patients have been able to resume their normal avocations, many of them having previously been restricted to their homes owing to their violent and frequent paroxysms.

The radiotherapeutic treatment ought to be applied to both front and back and confined each time to one of the four anterior and posterior irradiation fields. Improvement begins usually at the end of the second week, the whole treatment lasting 4 to 6 weeks. Good results should persist for several months. A treatment lasts 20 minutes and is given every alternate day.

Discussion showed that the method did not give such good results to others as to the authors and, furthermore, that severe complications were liable to occur.

Proctotomy with Implantation for Anal Contraction

The operation of proctotomy, described by Dr. Wm. E. Minor, of Kansas City, in *Med. Herald and Physiotherap.*, June 1928, is intended to produce better and safer drainage, to obviate the necessity for postoperative dilatation and to minimize postoperative pain.

The skin, fascia and connective tissues are incised over the triangle formed at the posterior point of the anal aperture, the apex of this triangle being the meeting point of the fibers of the external sphincter after having passed around the anus. That portion of the sphincter is exposed where the muscle fibers lock and blend together; the muscle is then dilated and the end of the gut interposed into the sulcus, making a permanent enlargement.

This operation is intended to obviate the present crude and unsurgical method of postoperative anal divulsion. It simplifies the operations for fissure, ulceration, internal hemorrhoids when accompanied by anal contraction and other complicated conditions, and supplies a long felt want in proctology. It can be performed in the office, under local anesthesia. The wound should be dressed daily, keeping it clean and putting a few drops of mercurochrome over the raw surfaces. Besides, the operation cures many cases of chronic constipation due to contracted anus.

Vernes' Resorcin Sero-Reaction in Urinary Tuberculosis

In *Presse méd.*, Paris, July 4, 1928, Legueu and Vrignaud describe Vernes' resorcin sero-reaction in cases of urinary tuberculosis.

A stable emulsion of finely-grained resorcin flocculates under certain conditions of weather and temperature, in the presence of any serum, but infinitely more so in presence of tuberculous or syphilitic serum. The degree of flocculation can be measured photometrically, so that this sero-action becomes a sero-measure. The flocculation power of an ordinary serum varies from 0 to 15; that of a tuberculous serum exceeds 30.

Legueu and Vrignaud have applied this test in 44 cases of tuberculosis of the urinary organs. In 40 of the 44 the sero-reaction has been in accord with the clinical findings and gave correct results in 9 out of every 10 cases.

Is the Treponema Pallidum the Agent of Neurosyphilis?

The pathogenesis of general paresis and of tabes dorsalis is a fascinating study and recent literature is much occupied with it. In *Urol. & Cutan. Rev.*, Aug., 1928, Dr. I. Kritschevsky, of Moscow, takes up the discussion of the question of whether or not there are neurotropic and somatotropic species of spirochetes and how far these are responsible for the neural manifestations of syphilis.

Dealing with the researches culminating in the theory of the existence of a particular neurotropic strain of *Treponema pallidum*, the author is of the opinion that French workers failed to establish that a neurotropic strain of the organism could be differentiated from a dermatotropic strain.

The author has made certain experimental investigations with the *Spirochaeta recurrentis*, using different strains for inoculating mice. Careful biologic investigations have shown that the *S. pallida* and the *S. recurrentis* stand in close genetic relationship and that their pathogenic actions in the human organism and reactions to therapy are similar. Furthermore, it has been clearly established that the *S. recurrentis* has a pronounced tendency to attack the central nervous system in preference to other parts of the body.

From his experimental inoculations and re-inoculations of mice with these organisms, the author believes that the hypothesis concerning the existence of spirochetal strains with differing affinities for nerve tissue can be established, at least for *S. recurrentis*. These types of this spirochete; viz. *S. Duttoni* (Strain-Bazzaville), *S. Duttoni* (Strain-Berlin) and *S. Obermeieri* (Strain-Berlin) showed neurotropism in 78.6, 39.6 and 16.1 percent, respectively. Also this neurotropism was quite independent of the blood being sterile or not.

All of the *S. recurrentis* strains used are able to produce an acute infectious process in which the entire organism is affected. It has been proved that, following infection, various types of microorganisms, re-inoculated during blood sterility, attack the nervous system with varying intensity, and, therefore, the theory of the existence of neurotropic spirochetal strains is experimentally established.

The author believes that his own work and that of others lead to the definite conclusions that neurotropic and somatotropic strains of *S. pallida* also actually exist and are concerned in producing the varying manifestations of the disease in man.

The factors which govern the neurotropism of the spirochetes in general, as well as the high grade neurotropism of some strains and the slighter grades of others, are entirely different from those which govern the somatotropism.

Summing up Kritschevsky's article, he believes that he has shown that the strains of *S. pallida* that produce the ordinary clinical manifestations of syphilis in man are quite distinct from the strain or strains of this organism that produce neurosyphilis.

Split Fingernails

The treatment of split fingernails is a matter to which few surgeons give any attention. In J.A.M.A., May 19, 1928, Dr. W. W. Carter, New York, gives the following mode of treatment which he has found successful:

Let the nail grow about 3/8 inch beyond the end of the finger. Make a drill from a cambric needle and with it drill three holes on opposite sides of the split in the outer part of the overgrown nail. Pass sutures through the holes and draw the nail edges as closely together as possible, bandaging the finger for protection. According as the nail in growing protrudes the distance between two of the sutures, the distal end of the nail is pared off and another suture placed near the end of the finger. This process is kept up until the apex of the slit is well beyond the end of the finger, which takes about six weeks to accomplish.

Physicians as Men

An editorial in *Med. Pocket Quarterly* for Sept., 1928, contains much food for thought.

Where is the point in a man's life when he ceases to be a man and becomes a butcher, baker or candlestick maker?

There is no such point: The man *turns* baker, but continues to be a man. The same is true of doctors. Physicians though we be, we are still men, like others. We live to serve: *But we serve to live.*

If other people look upon us as a race apart —some kind of super-human beings—it is partly our individual fault and partly the fault of our mysterious code of ethics. Who would call a plumber at 2 a. m.? Or let a bill owed to his banker go a year unpaid? Or object when his automobile maker raises his prices? Or stand in the way of laborers who wish to organize for their own protection? Or consider it unethical for clergymen to air their professional opinions in the newspapers?

These men are considered men, the same as other people. Why not we?

Let it be known that we, too, are men like the rest, in business for a livelihood and trying to do our humanitarian work as well as we can, asking only that our efforts be not hampered by foolish restrictions and that, when a job is finished, we be paid for it, adequately and promptly, as others are paid.

Medicine as Pure Science

Medicine may justly be called the mother of the sciences, according to Alfred E. Cohn, of the Hospital of the Rockefeller Institute,, writing in *Science* for Nov. 23, 1928, because chemistry, anatomy and physiology had their inception in the world's general interest in disease.

The time has now come when Medicine should be able to stand alone, without the support of her interesting children, and the study of the pure science of medicine (or the investigation of disease *per se*, without reference to its treatment) should be engaging the attention of such men as are intellectually equipped to pursue a discipline of this sort, in the same way that some are studying the purely academic aspects of physics, with no idea of applying it practically as engineering.

It is entirely reasonable to suppose that, from such abstract and intensive investigations as these, facts might emerge which would be of the highest importance and practical value to clinicians.

Diathermy in Shock

One of the most valuable methods of treating or preventing shock is by the application of heat.

In *Arch. Phys. Therap., X-Ray, Radium*, Sept., 1928, Dr. U. V. Portmann, of Cleveland, states that, from clinical and experimental observations, he concluded that it was possible to improve the status of patients by preventing undue cooling of the abdominal viscera (especially the liver) at or after operation. This was accomplished by applying diathermy through the liver, the base of the lungs and the heart, during and after operation.

In applying diathermy, well-lathered electrodes, usually about 4x6 inches were used. An electrode is placed on each lateral chest wall below the axilla so that they are directly opposite each other and the treated zone includes the liver area. The electrodes are held in place by large, dry rubber sponges under a snug cloth binder. If the patient has already been anesthetized, from 800 to 2400 miliamperes of current are used, depending on the size of electrodes employed. Only nitrous-oxid-oxygen anesthesia is used in the author's hospital.

In certain cases in which it is desirable to raise the temperature of the whole body, a long, well-lathered metal electrode is applied longitudinally to the calf of each leg or to one leg and to the opposite forearm.

During the two years in which this method has been empoyed by the author there have been no ill effects from its use and he is convinced that the status of the patients has been definitely improved and safeguarded.

Abortive Treatment of Gonorrhea

Dr. M. Carle, Lyon, France, in *Urol. and Cutan. Rev.*, July, 1928, gives rules for the abortive treatment of gonorrhea which he states merely modify the well-established procedures of Neisser and Jadassohn.

The main points in these rules are:

1.—Never attempt to institute an abortive treatment until the gonococcus has been found.

2.—Make certain, yourself, that the patient knows how to give himself a urethral injection.

3.—Silver vitelline (Argyrol type) and silver albumose (Protargol type) appear to be the medicaments of choice. Silver albumose acts more quickly; silver vitelline is better tolerated. Begin with a strength of 2 percent and, if well supported, gradually increase to 5 percent.

4.—Four, or at the least 3, injections should be given daily. After every urination a cleansing injection should be made, which is allowed to escape, followed by a second injection which is retained as long as possible.

5.—In the absence of untoward circumstances, a minimum of 15 days of treatment may be expected to be effective.

6.—Injections of stock vaccines may be considered as excellent adjuncts.

7.—The patient should avoid erotic provocation. Dietary restrictions need be only moderate.

8.—A patient should not be declared cured without sufficient and positive proof. The patient should be supervised for some time after cessation of the symptoms and stopping of injections.

Endocrine Rheumatism

Dr. C. B. Udaondo, in *La Prensa med. Argent.*, June 20, 1928, deals with rheumatism of ovarian origin, on the basis of 6 clinical cases which he has observed within a short period of time.

Several writers have noted that ovarian secretory insufficiency, especially in the climacterium, predisposes to chronic rheumatism; also arthritis which has been latent may break out at the time of the menopause and such menopausal arthritides are most frequent in obese women. Arthralgia is the most constant symptom; Heberden's nodules are rare, although cases have been reported.

Ovarian rheumatism may also be observed in girls with retarded menstruation, but the arthralgia in these cases promptly disappears on the establishment of the regular menses.

Opotherapy, either ovarian extract alone or associated ovarian and thyroid extracts, is effective and physical therapy, especially thermotherapy, is a valuable adjunct.

This condition is also observed in women either surgically or roentgenically castrated.

Dietetic Reduction of Corpulency

In the *Practitioner*, May, 1928, Dr. W. F. Christie, of London, Eng., says that because fat, in exogenous obesity, is laid down very slowly its rapid removal must be unphysiologic. But absolute fasts from food of not more than seven days duration appear, in practice, to be safe enough for healthy people, although acidosis from the incomplete oxidation of fat usually appears on the third day. The permanent loss of fat after such a fast is only about 5 or 6 pounds.

For those who are in a hurry to get thin, who are sound in body and strong in purpose, and who have not a large surplus of fat to unburden, the rapid method has its appeal. It must be carried out under close medical supervision.

In a slow reducing diet, a loss of 1 to 2 pounds of fat per week is aimed at. A suitable diet gives quite enough to eat; it is safe and those who follow it feel unusually fit throughout the period of dieting. In practice the patient is advised to return for a month to a maintenance diet after the loss of 18 pounds; thereafter the reducing is resumed.

For those who possess a working knowledge of food values, the construction of a scheme for each fat patient is an easy matter. The diet should contain a full ration of proteins, vitamins, mineral salts, roughage and water, but the fats and carbohydrates are reduced a thousand or more calories below the maintenance standard of the individual.

Instead of cream, butter, oil, cheese, animal fats, yolk of egg, sugar, articles made with flour, etc., the holes and corners of an empty stomach are filled with fresh fruits, green vegetables, fresh salads, clear soups, beef tea, and other items of low caloric content.

The diets must not only be balanced and the calories counted, but the menus should be suited to the patient so that he may find them attractive as well as efficient.

A "skeleton diet" of about 1,200 calories value daily should be chosen. If the patient is burning up more than 2 pounds of his own fat weekly on this, the diet may be supplemented with proteins or fats to the amount of the excess.

Phleboliths

The examination of 1555 roentgenograms of the pelvis at the Mayo Clinic showed phleboliths in over 38 percent. In *J. Urol.*, May, 1928, Drs. J. R. Dillon and B. A. Cody, of San Francisco, state that, in 900 pelvic films, taken at the Stanford University Medical School, 31.7 percent showed phleboliths, the majority being in males.

Phleboliths may not cause symptoms but their presence indicates varicosities in the pelvic venous plexuses; and, as varicosities elsewhere cause symptoms, it is reasonable to assume they may also cause symptoms in the pelvis and lower abdomen.

In 15 cases the phleboliths were found on the same side and in the region of symptoms complained of by the patients and no other cause could be found to explain these symptoms. The close proximity of the pelvic plexuses to the bladder and ureters explains the frequency of bladder and kidney symptoms with negative urologic and cystoscopic findings.

Factors in Decay of Teeth

An intensive study of two groups of children in the Rochester public schools—one group with perfect or nearly perfect teeth and the other group showing marked dental caries—was carried out to determine the factors concerned in the decay of teeth. The study included investigation of the mother's condition, food, etc., during pregnancy.

The difference in the data obtained in the two groups was not so striking as might be expected. The only feature that seemed to be of definite etiologic significance in preventing decay of teeth was a diet composed largely of fruits and vegetables. Heredity, infectious diseases and care of the teeth appeared to be of little, if any, significance.—Dr. Louise O. Kappes, Rochester, Minn., in *Am. J. Dis. Child.*, Aug., 1928.

Physiologic Effects of Heat

In *Arch. Phys. Therap., X-Ray, Radium*, Aug., 1928, Prof, A. J. Carlson, University of Chicago, referring to some statements of Dr. J. H. Kellogg, states that it is very likely that, when the skin temperature is raised to 120°F., the heat temporarily paralyzes the pain-nerve endings.

There is no evidence to prove the assumption of Dr. Kellogg that diathermy through the ends of the long bones would heat the bone marrow and accelerate leukocytosis in anemia. Neither can it be proved that increased basal metabolism is a favorable sign; that is to say, an increase above the normal rate. It will take a good deal of scientific work to show that the individual is benefited by breaking down in any way the body's mechanism of defense against temperatures higher than normal, because ordinarily such high temperatures lead to injurious effects. The particular action of diathermy alluded to is the effect of heat on the capillaries; dilation may be an expression of paralysis of the capillaries.

Nervous Complications of Measles

Measles is followed by symptoms referable to the nervous system in about four-tenths of one percent of all cases.

In *Bull. Johns Hopkins Hosp.*, Sept., 1928, Dr. F. R. Ford states that he found 113 cases in the literature to which he adds the histories of 12 previously unpublished cases. The onset is usually on the fourth to sixth day of the disease and the symptoms comprise drowsiness, stupor, muscular rigidity and twitching. Spastic paralyses, ataxias, tremor, choreic movements and aphasias are common, and spinal cord syndromes constitute a large group. Mental disturbances are almost invariably present.

The clinical picture may closely resemble that of epidemic encephalitis or tuberculous meningitis.

The pathologic findings are those of a toxic degenerative rather than those of an inflammatory process.

The prognosis for life is good; only about 10 percent of the patients die. About 65 percent of those who survive show residual symptoms; weakness in 30 percent, ataxia in 12 percent, mental defect or personality changes in 17 percent and epilepsy in 5 percent.

Physical Therapy in Dysmenorrhea

In *Med. Herald*, Sept., 1928, Dr. A. D. Willmoth, Louisville, states that, in dysmenorrheic patients whose vital resistance is below normal, general ultraviolet irradiation will be of inestimable value in restoring these girls or women to a normal condition.

For the relief of pain, the high-frequency machine naturally suggests itself and, since the heat is generated within the tissues, the effect is incomparably greater than can be obtained by hot baths, radiant heat or means which merely heat the surface of the body.

The author places an electrode of 5x7 inches over the epigastrium and one 6x8 over the sacrum. Increase the current strength to about 1,500 m.a. and treat for 30 minutes. Treatments should be repeated every other day, until within one week of menstruation, when they should be given every day until the appearance of the flow. The current frequency should not exceed 750,000 per second.

Diabetes and Hyperthyroidism

Studies of diabetic patients cared for during some years past in the New England Deaconess Hospital, Boston, by Drs. E. P. Joslin and F. H. Lahey have led these investigators to the following conclusions, published in *Am. J. Med. Sc.*, July, 1928.

1.—Hyperthyroidism alone is the factor in disease of the thyroid which leads to glycosuria. Thus in 228 cases of primary hyperthyroidism, the glycosuria was 0.1 percent or more before operation or 0.5 percent or more after operation in 38.6 percent; and, in 83 cases of adenomatous goiter with secondary hyperthyroidism, in 27.7 percent; but in 189 cases of nontoxic goiters the percentage was 14.8.

2.—Among 4917 true diabetics, 43 cases (0.87 percent) of primary hyperthyroidism were encountered and 28 cases (0.57 percent) of secondary hyperthyroids. With these patients the blood sugar was 0.15 percent before or 0.20 percent or more after operation. Eleven other cases with hyperthyroidism classified by usual standards as diabetic were not included in this paper. Some degree of thyroid enlargement was observed in 208 other cases. There was 1 diabetic with cancer of the thyroid, another with myxedema, and 1 with a thyroglossal cyst. Still another group of 9 patients with thyroid diseases were classified as potential diabetics.

3.—The influence of the hyperthyroidism is distinctly more important than the accompanying increased metabolism.

4.—Surgery greatly ameliorates the condition of these patients. In our series, which includes both the old and the modern types of surgery, the mortality was 4 percent.

5.—Treatment of the diabetes in the presence of hyperthyroidism must be adapted to the increased metabolism and gradual and moderate changes in diet and insulin should be carried out rather than sudden and heroic procedures, remembering that the tendency of the routine diabetic and the routine thyroid case is to do well.

6.—We know that our 75 cases here reported are not cured of their diabetes after successful operation on their thyroid, but that the great majority of the cases have been improved to an unusual degree. We believe they (the group classified ordinarily but not in this paper as true diabetics and the group of potential diabetics) deserve careful observation for years.

7.—The hyperthyroid patient, from physiologic, pathologic and statistical evdence is somewhat more prone to diabetes than is the ordinary individual and for the remainder of his life should be so regarded, whether operated upon or not.

Vibratory Massage of Prostate

Massage of the prostate is recognized as valuable, but has the disadvantage that it needs much physical pressure and may be distressing or painful to the patient.

In *J.A.M.A.*, Nov. 3, 1928, Dr. A. L. Wolbarst, New York, has applied the oscillatory or vibration machine, by which vibratory massage can be applied to the prostate without the annoying effects of ordinary prostatic massage.

The apparatus may be described as an arrangement devised for the purpose of transmitting a vibrating impulse to the index finger in the rectum in contact with the surface of the prostate.

It is claimed that there is neither pain nor disagreeable sensation: that prostatic pus and secretion may be expressed with the slightest pressure of the finger: and that the method is agreeable and beneficial. These claims are based on the treatment of about 50 cases.

Scopolamine Anesthesia in Obstetrics

Narco-anesthesia in labor, produced by injections of scopolamine and morphine, has been accused of being responsible for what is known as "blue baby" or asphyxia at birth.

In *Anesthesia and Analgesia*, May-June, 1928, Dr. Bertha Van Hoosen, Chicago, states that, as morphine is entirely responsible for asphyxia in the newborn, it seemed rational to eliminate it and use scopolamine alone in obstetric anesthesia.

In 26 cases, in which narco-anesthesia by scopolamine alone was tried in the Francis Willard Hospital, Chicago, during the summer in 1927, eleven patients were primiparae and fifteen multiparae. The ages ran from 20 to 43 years. All the babies were in excellent condition at birth except one—a breech presentation—that needed resuscitation. Six of the cases were abnormal deliveries. Several patients with histories of previous prolonged deliveries had much shorter labors under the anesthetic.

The two outstanding advantages observed have been shortened labors and decrease in the amount of blood lost post-partum. This is a safe method by which the patient can be kept entirely unconscious for a very long period.

The dosage is 1/100 grain (0.65 Mgm.) of scopolamine at the commencement of labor, repeated every half-hour until the patient has had 3 doses, then again repeated at intervals of 2 hours if necessary. The disadvantages are such that they can easily be obviated.

Psychotherapy in Heart Disease

Control of the mind is extremely important in the treatment of heart disease. In *Am. Med.*, Feb., 1928, Dr. J. S. Lankford, of San Antonio, Tex., states that anger and other passions impair functions, lead to toxemia and poison the heart. On the other hand, the knowledge that heart disease is present is a constant source of fear, anxiety and worry.

If there is any good element in prognosis that point should be dwelt upon in advising the patient, rather than the unfavorable elements. Never under any circumstances expose the patient to the terror and fear that he may at any moment drop dead. Giving the patient hope has, in itself, an actually good organic effect at times, as there is little doubt that the mental state of the patient affects all his organs.

The patient who is full of foreboding and in the depths of despair, on account of what he believes to be fatal heart disease, is a most favorable subject for psychotherapy. The strong mastery of the personality of the physician should overcome the fear, weakness, lack of self-assertion and of confidence in the patient and convince him of his power to live on.

Bunion

In an article on bunion, in *Mil. Surgeon*, June, 1928, Capt. H. A. Robinson, M.R.C., defines it as a dislocation of the metatarsophlangeal articulation of the great toe.

The author's experience, from x-raying hundreds of feet, is that every bunion is the effect of the action of the sesamoids against the under surface of the head of the first metatarsal bone, plus an hereditary weakness of the ligaments, allowing a stretching of the capsule surrounding the joint and its inevitable dislocation. There is no overgrowth of bone.

If the sesamoids are the cause of the trouble, the logical procedure would be to remove both. In every instance in which the author has done so (500 to 600 cases) relief has been given.

NEW BOOKS

Crile: Problems in Surgery

PROBLEMS IN SURGERY. University of Washington Graduate Medical Lectures for 1927. *By George W. Crile, M.D. Edited by Amy F. Rowland. Illustrated. Philadelphia and London: W. B. Saunders Company.* 1928. *Price* $4.00.

This little volume issuing from the fertile pen of Dr. George W. Crile contains a digest of certain problems in surgery which are practical and based upon his thorough observations. It will serve well anyone interested in the progress of surgical procedure. The general arrangement will appeal to the practical man and to the advanced student.

The work is divided into six chapters. Chapter one deals with the management of acute infections; the second chapter considers the treatment of premalignant and malignant conditions; while the third chapter discusses admirably operations on the "bad risk" patient. Confronted, as surgeons are daily, with the problems of what to do with the "poor surgical risk", one will find instructive material in this division of the book. The fourth chapter is a philosophical dissertation on the "Mechanism of Hyperthyroidism". Illustrative diagnostic and operative cases are embodied in chapter five.

This little volume contains about 170 pages of reading matter and concludes with a lucidly written chapter on the interpretation of certain manifestations of normal and pathologic conditions.

Such terse aphorisms as "*Cut and quit*", "*For pyocyanic infection, weak acetic acid is a specific*"; or, in speaking of certain morbid conditions, such admonitions as:

1.—Do not give stimulants.
2.—Do not give vaccines.
3.—Do not give intravenous antiseptics.
4.—Do not give intravenous saline infusions.
5.—Do not use diathermy.
6.—Do not use ultraviolet light.

are contained throughout the work.

The work is well illustrated and its general make-up is excellent.

M. T.

Ponton: Nomenclature of Diseases

NOMENCLATURE OF DISEASES AND OPERATIONS AND MANUAL OF THE MEDICAL RECORD. *By T. R. Ponton, B.A., M.D., Nomenclature endorsed by the American College of Surgeons and the American Hospital Association. Second Edition. Chicago: Physicians' Record Company.* 1928. *Price* $3.50.

Now that hospitals and hospital services are being standardized, there can be no question but that an accepted, uniform nomenclature of diseases and of surgical operations is most desirable, so that case histories and medical records may be everywhere of an identical pattern and comparable.

The nomenclature given in Dr. Ponton's book has been endorsed by the American College of Surgeons and the American Hospital Association, which ensures that it is in accordance with the best thought and efforts being made to standardize hospital procedures in the United States.

The nomenclature of diseases occupies 100 pages and is an alphabetical index giving the necessary cross-references and identifying the approved names of diseases in bold faced type. In addition, nomenclature is also given regionally.

There is a special nomenclature of surgical operations.

The Manual of the Medical Record takes up a considerable portion of the book. It gives copies of all standard records, from the admission card up to the time the patient is finally discharged, with full descriptions of the methods of using these and other information of a general character.

No up-to-date hospital can afford to be without this book.

Mason: Creation by Evolution

CREATION BY EVOLUTION. *A Consensus of Present-Day Knowledge as Set Forth by Leading Authorities in Non-Technical Language That All May Understand. Edited by Frances Mason. New York: The Macmillan Company.* 1928. *Price* $5.00.

Here is the world. How came it to be as we see it today? Did God create a tree, a horse and a man as we now find them, or did they *develop* to their present state from some simpler forms? In essence, was the world created as a cabinet-maker creates a table, or as a gardener creates a garden?

In the minds of those who have given study to these questions, there can be no doubt of the answers. "The universal process of orderly change," which we call evolution, is now accepted by all scientists as the method by which our world came into being. Evolution means far more than "Darwinism," and it is *still in full operation.*

There are, however, many intelligent people who have not given this matter any especial thought and who are eager to know the truth. Here is a book for them.

In this volume, twenty-six scientists of note in their particular field—most of them college and university professors—have told, in straight-

forward and non-technical language, what their particular fields of science have discovered along this line. Dr. David Starr Jordan discusses the meaning of evolution; Prof. J. Arthur Thomson, of Aberdeen University, tells why we must be evolutionists; Prof. E. G. Conklin, of Princeton University, shows how embryology demonstrates evolution; Dr. Francis A. Bather, of London, deals with the evolutionary records found in the rocks; Sir Arthur S. Woodward traces the progression of life on this earth; and so on, through the rest of the fascinating and scholarly discussions, until Prof. Horatio H. Newman, of the University of Chicago, sums up the cumulative evidence for evolution.

No well-informed man or woman (especially no physician) can, today, afford to confess ignorance of this question which is being so widely discussed; and there are few, if any, sources of this necessary information so authoritative and so pleasing as this book. Such a work is not for fundamentalists and those whose brains ache after slight effort; but all thinking people will welcome it.

Pardee: Heart Disease

WHAT YOU SHOULD KNOW ABOUT HEART DISEASE. *By Harold E. B. Pardee, M.D., Assistant Professor of Clinical Medicine, Cornell University Medical School; Assistant Attending Physician, New York Hospital, etc. Philadelphia: Lea & Febiger.* 1928. *Price* $1.50.

This little book has been written for the layman and gives in very simple language, in which technicalities have been avoided, all the salient facts concerning the normal and the diseased heart. The ordinary precautions which people with diseased hearts should take are dwelt upon; also a dietary is suggested.

Baldwin, Petroff and Gardner: Tuberculosis

TUBERCULOSIS. *Bacteriology, Pathology and Laboratory Diagnosis. With Sections on Immunology, Epidemiology, Prophylaxis and Experimental Therapy. By Edward R. Baldwin, M.D., Director of the Trudeau Foundation; S. A. Petroff, Ph.D., Bacteriologist and Director of Trudeau Sanatorium Research and Clinical Laboratory; and Leroy S. Gardner, M.D., Pathologist and Director of Saranac Laboratory for the Study of Tuberculosis, Saranac Lake, N. Y. Illustrated. Philadelphia: Lea & Febiger.* 1927. *Price* $4.50.

This is the second volume of the Trudeau Foundation Studies and gives the results of the authors' experience in the bacteriology, pathology and laboratory diagnosis of tuberculosis.

Most of the technical methods described here have been tried both in the Saranac and Trudeau Sanatorium laboratories which are jointly operated by the Trudeau Foundation as teaching and research institutions. Many of these procedures are new.

The growth of sanatoria for the care of the tuberculous and the extensive laboratory work demanded by the refinements of diagnostic and experimental work seem to call for a special manual to serve these particular needs, as well as to serve as a guide for the laboratory study of the disease. The book under review has been written to fulfil these objects. Chapters on experimental pathology, predisposition, infection, immunology, epidemiology, prophylaxis and experimental therapy have been included to serve the special requirements of a student's textbook.

A volume of this kind is a necessity to every student of tuberculosis and to every laboratory technician who may have to deal with the disease.

Burke: Venereal Disease

TREATMENT OF VENEREAL DISEASES IN GENERAL PRACTICE. *By E. T. Burke, D.S.O., M.B., Ch.B. (Glas.), Editor, Syphilis Section, "British Journal of Venereal Diseases"; Venereal Diseases Officer to the County Borough of Warrington; etc. New York: Oxford University Press,* 35 *West* 32*nd St.* 1927. *Price* $1.75.

The author insists that, as a rule, the treatment of syphilis in general practice is inadequate. The general practitioner, who sees a large proportion of syphilitic cases, does not always recognize them, owing to the manifold manifestations of this disease; and if he does recognize them the treatment applied is not in accordance with the latest scientific knowledge. But it is vital that venereal diseases should be treated upon modern principles.

The book consists of two parts: Part I on syphilis and Part II on gonorrhea. The most modern methods of treating both diseases are explained in a lucid and practical manner.

A point of interest on which the author dwells and which general practitioners should take to heart is that the newer arsenical remedies are very often contraindicated by various conditions. The indiscriminate exhibition of these, when syphilis is found in any organ, may often have untoward results.

General practitioners who desire to have a handy practical book on the treatment of the venereal diseases will find this suitable.

Burn: Biologic Assay

METHODS OF BIOLOGICAL ASSAY. *By J. H. Burn, M.A., M.D., (Camb.), Director of the Pharmacological Laboratory of the Pharmaceutical Society of Great Britain; etc. With an Introduction By H. H. Dale, C.B.E., Sec. R.S., M.D., F.R.C.P. London and New York. Oxford University Press.* 1928. *Price* $2.55.

Excepting the initiated, very few realize or even think of the difficulties experienced in standardizing the therapeutic potency of commonly used drugs. And, furthermore, the therapeutic potency of a drug will vary greatly in different individuals and according to many circumstances.

Dr. Burn's book is strictly a technical one, primarily intended for the instruction and guidance of biologic technicians. Such will find it eminently practical and containing much information not to be found elsewhere, in regard to the mode of carrying out experimental tests in animals.

The practicing physician will also find the book of interest, as it opens up a new vista of the pharmaceutic researches necessary in connection with drugs which he is constantly using and also gives detailed information regarding many expressions used in medical journals which are only vaguely explained in textbooks.

MacCallum: Pathology

A Text-Book of Pathology. By W. G. MacCallum, *Professor of Pathology and Bacteriology, The Johns Hopkins University, Baltimore. Fourth Edition, Thoroughly Revised. Philadelphia and London:* W. B. Saunders Company. 1928. *Price* $10.00.

Dr. MacCallum's book, which is now in its fourth edition, was written as a textbook to cover the course in pathology given in the second year to the students of the College of Physicians and Surgeons. While it may be profitably used by the clinician, it cannot be regarded as a manual for the study of pathologic tissue changes in different disease conditions, but rather as a general outline of pathologic changes in general.

Dr. MacCallum bases his pathology on the idea that all pathologic disturbances are the result of some form of injury, or of the immediate or remote reactions of the body to injury. In this conception the word injury must be accepted in a very wide sense; and indeed the author admits that it does not apply to that large class of important diseases coming under the head of tumors. One can call to mind many fairly definite disease complexes to which this etiologic conception would scarcely be deemed to apply and, indeed, since the shattering of Virchow's cellular pathology, we are in a state of haze in regard to a basis of pathology which will be accepted as satisfactory by all, as filling the bill.

The book fulfils the author's purpose in a most excellent manner. The text is clear and the illustrations are profuse, suitable and clarifying. From the vast storehouse of intense pathologic postoperative and postmorten studies published in the periodical literature the author has managed to pick out the most important data and to fit them in their appointed places with particular skill. In this way the book has been brought right up to date and the student has the advantage that the pathologic field has been gone over and winnowed by an expert.

International Clinics, Dec., 1928

International Clinics. *A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles by Leading Members of the Medical Profession Throughout the World. Volume IV. Thirty-Eighth Series,* 1928. *Philadelphia and London: J. B. Lippincott Company. Price* $3.00 *per volume;* $12.00 *per year.*

The December, 1928, volume of International Clinics opens with four papers on conditions connected with old age. The opening paper is by Professor Putti of Bologna, Italy, on the subject of arthritis deformans.

Nine papers are devoted to diagnosis and treatment. These include an excellent one, with numerous illustrations, by Dr. G. C. Bird, of Philadelphia, on the roentgenologic examination of the appendix; Dr. J. F. Montague, of New York City, writes on the advantage of medication through the rectal route; and a good paper is furnished by Dr. G. S. Foster, of Manchester, N. H., on feeding in postoperative cases complicated by persistent vomiting.

Dr. L. F. Barker, of Baltimore, contributes a paper on circulation insufficiency in obesity and Dr. Jas. M. Anders, of Philadelphia, writes upon immunization in communicable diseases of childhood.

The surgical and other sections contain some valuable papers and altogether this volume is a capital one, although not so much from the purely clinical point of view.

Conservative Proctology

Transactions of the Academy of Conservative Proctology. *Fifth Annual Session, Chicago, August,* 1928. *Jacksonville, Fla.: Geo. L. Dickerson, M.D., Editor-in-Chief. Price* $5.00.

The transactions of the Fifth Annual Session of the Academy of Conservative Proctology, held at Chicago, August, 1928, contains the papers read and the discussions thereon.

In some of the papers there is a tendency to extend the field and importance of proctology beyond what might be termed its legitimate limits; however, this is not confined to this particular specialty.

The value of the book is not great.

Zucchi: Rejuvenation

Del Ringiovanire (Neopoiesi). *Dottrine, Critica E Proposta Di Un Metodo Nuovo. Dott. Gaetano Zucchi. Ulrico Hoepli, Editore-Libraio Della Real Casa, Milano.* 1928. *Price L.* 12.50.

In this short monograph Zucchi criticizes Voronoff's and other methods of rejuvenation. He propounds a new method which he terms diathermic neopoiesis based on the electrical stimulation of the sex glands.

Willis: Laboratory Diagnosis of Tuberculosis

Laboratory Diagnosis and Experimental Methods in Tuberculosis. By *Henry Stuart Willis, The Johns Hopkins University and Hospital. With a Chapter on Tuberculo-Complement Fixation by J. Stanley Woolley, Loomis Sanatorium, New York. Introduction by Allen K. Krause, The Johns Hopkins University. Springfield, Ill. Charles C. Thomas,* 300 *East Monroe St.* 1928. *Price, cloth* $3.50; *keratol,* $4.25.

According to the author's preface, the aim of this book is to describe the more important methods of the laboratory diagnosis of tuberculosis and to consider some of the more significant procedures and principles involved in the experimental study of this infection.

He gives an exposition of methods for the detection of the tubercle bacillus by staining, isolation and animal inoculation; also a morphologic description of this microorganism and com-

parison with other acid-fast bacteria. Chapters are devoted to serologic diagnosis and diagnosis by the use of tuberculin; also to the general factors concerned in the infection of animals and the study of tuberculosis experimentally.

The guiding principle has been to cover the subject as concisely as is consistent with adequacy of presentation. Part I deals with the general considerations regarding body fluids and excreta; Part II with the bacteriologic diagnosis of the presence of the tubercle bacillus in tissues and fluids; Part III with diagnosis by use of tuberculin; Part IV with serologic diagnosis; Part V with experimentally produced tuberculosis.

The book should be of use to practicing physicians, to public health officials and to medical students, but particularly to laboratory workers. The histologic technical methods in general should be valuable for other pathologic investigations besides tuberculosis.

Colwell's Physicians' Daily Log

DR. COLWELL'S DAILY LOG FOR PHYSICIANS. *Champaign, Ill.: Colwell Publishing Co.* 1929. *Price* $6.00.

A daily log, or journal of daily transactions, such as this is a business necessity for every physician's office.

There is a daily record sheet, summary (monthly) sheets showing total receipts, expenses and special records and memoranda, including narcotics, obstetrics, want list, etc.

The physician who faithfully keeps up a daily record of his business transactions such as this will have no trouble in finding his yearly income and outgoings and knowing his financial position, both actually and comparatively.

Here is embodied, in one volume, most of the data, with the exception of the ledger and index cards, mentioned in Dr. Carlson's excellent article in CLIN. MED. AND SURG., for January, 1929, page 31. This is the best and most complete physician's record book we have yet seen.

Torelli: Posology

LE DOSI DEI MEDICAMENTI. *Nella Terapia Dei Bambini E Dei Fanciulli. Alimentazione—Formulario—Idroterapia. Dottore P. Torelli. Ulrico Hoepli, Editore-Libraio Della Real Casa, Milano.* 1928. *Price* L.10.

A succinct manual of posology intended for use in cases of infants and young children. The dosages are arranged in tables according to ages under an alphabetical list of medicaments. Will be useful to pediatricians who read Italian.

Rockefeller Foundation: Annual Report

THE ROCKEFELLER FOUNDATION ANNUAL REPORT. *New York: The Rockefeller Foundation, 61 Broadway.* 1927. *Sent complimentary on request.*

The Annual Report of the Rockefeller Foundation for the year 1927 offers some interesting reading. The principal sum which supports the Foundation stands at over 102 million dollars.

During 1927, financial aid was given to 268 counties in 23 States and to budgets for health work among the flood sufferers in 85 counties in 6 States in the Mississippi Valley. In addition, financial aid for health work and medical education was given to 14 foreign countries.

Wrightsman: Spasmophilia

SPASMOPHILIA. *By Edward C. Wrightsman, M.D., Former Clinical Assistant in Pediatrics, Northwestern University Medical School, Chicago. Boston: Richard G. Badger.* 1928. *Price* $2.00.

This monograph on spasmophilia is evidently the result of many years of close observation and study of the disease by the author.

Dr. Wrightsman considers that spasmophilia is always found associated with rickets and is more prevalent than is believed. Every rachitic child is a potential spasmophiliac.

The book is intended for the general practitioner who is the first to meet the condition and should understand its nature and management.

It seems strange that in dealing with the etiology of rickets the author does not mention vitamin D, the antirachitic vitamin, though he does allude to the others. Neither does he mention the excellent results obtained in the treatment of this disease during the last couple of years by the use of ultraviolet-irradiated cod-liver oil and ergosterol. These treatments have now practically supplanted all others.

Brandt and Szandicz: Serology of Syphilis

DIE SEROLOGISCHEN REAKTIONEN DER SYPHILIS. *Eine Anleitung fur Praktiker und Studenten zum Verstehen und Verwerten der Laboratoriumshefunde. Von Dr. Robert Brandt und Dr. Stephan Szandicz, Fachärzte für Dermatologie in Wien. Mit einem Vorwort von Prof. Dr. Rudolf Müller. Wien. Mit 6 zum Teil mehrfarbigen Abbildungen im Text und 13 farbigen Tafeln. Berlin N24, Friedrichstrasse 105b: Urban & Schwarzenberg.* 1928. *Price Mk.* 12.

This is a handy little book for practitioners and students, but especially for technicians interested in the practical laboratory details of the Wassermann and spinal fluid serological tests for syphilis. The German text is easily followed and the illustrations elucidate it.

Chandler & Wood: Lipiodol Diagnosis of Thoracic Disease

LIPIODOL IN THE DIAGNOSIS OF THORACIC DISEASE. *By F. G. Chandler, M.A., M.D., (Cantab.), F.R.C.P. (Lond.), Physician with Charge of Out-Patients, Charing Cross Hospital; etc.; and W. Burton Wood, M.A., M.D., (Cantab.), M.R.C.P. (Lond.), Physician with charge of outpatients, City of London Hospital for disease of the Heart and Lungs. London and New York: Humphrey Milford, Oxford University Press.* 1928. *Price* $3.50.

For several years the lipiodol method of diagnosis of diseases of the respiratory passages

has been extended to the localization of spinal cord tumors and disease in the uterine adnexae.

The authors think it is time that a book should be written giving the known facts regarding the use and value of lipiodol in the diagnosis of thoracic diseases and the present volume is an attempt to do so. The text is accompanied by a large number of plates gathered from the authors' own practice and from some of the London hospitals.

It is a valuable little compendium of the subject.

Gloor: Leukocyte Changes

DIE KLINISCHE BEDEUTUNG DER QUALITATIVEN VERANDERUNGEN DER LEUKOZYTEN. *Von Priv.-Doz. Dr. Walter Gloor. Mit einem Vorwort von Prof. Dr. O. Naegeli. Mit 29 Abbildungen im Text und 4 farbigen Tafeln. Leipzig: George Thieme.* 1929. *Price* 12 M.

It is merely a truism to state that almost every pathologic condition is reflected in the blood and that if we could accurately determine and interpret the changes in the blood we would have a key to correct diagnosis. In the infectious diseases especially, a study of the leukocytes is of particular value.

Dr. Gloor's monograph deals with the morphologic changes in the leukocytes, especially those resulting from circulating toxins. The study is based on a number of typical case reports.

While of particular value in clinical hematology, the monograph contains a large amount of information for the general clinician and will be appreciated by those who read German.

Lambourne & Mitchell: Chemical Analysis

QUALITATIVE AND VOLUMETRIC ANALYSIS. *For medical students. By H. Lambourne, M.A., M.Sc., F.I.C., Head of the Chemistry Department, The Polytechnic; and J. A. Mitchell, M.Sc., Lecturer in the Chemistry Department, The Polytechnic. London and New York: Humphrey Milford, Oxford University Press.* 1928. *Price* $1.50.

An elementary treatise on qualitative and volumetric analysis, intended primarily for medical students.

Brown & Allen: Buerger's Disease

THROMBO-ANGIITIS OBLITERANS. *Clinical, Psysiologic and Pathologic Studies. By George E. Brown, M.D., and Edgar V. Allen, M.D., Division of Medicine, Mayo Clinic, Collaborating in Pathology with Howard R. Mahorner, M.D., Fellow in Surgery, The Mayo Foundation. Illustrated. Philadelphia and London: W. B. Saunders Company.* 1928. *Price* $3.00.

This splendid little monograph enters into the history of thrombo-angiitis obliterans, and follows it up with a thorough survey of the etiology, pathology, clinical course and clinical types of the disease. Commencing with Chapter 6, it gives a thorough "Analysis of Symptoms," to be followed by a chapter on "Erroneous Interpretation of Signs and Symptoms."

The diagnosis of the malady is thoroughly considered. On page 127, an illustrated table on "Differential Diagnosis of Vascular Disease Affecting the Extremities" is to be found. The treatment is well discussed. An adequate index completes the book.

The illustrations are lucid and the microphotographs illuminating. The bibliography has been painstakingly prepared.

The work can be recommended to anyone interested in this phase of pathology. The modern student is not likely to get so much out of the work as is the man in practice, for the reason that the modern student, with the present-day overcrowding of curriculums, has his hands full and is much pressed for time. For the advanced student, however, this little volume should find a welcome reception.

M. T.

Brugsch: General Medicine

ERGEBNISSE DER GESAMTEN MEDIZIN. *Unter Mitwirkung hervorragender Fachgelehrten. Herausgegeben von Prof. Dr. Th. Brugsch, o.ö. Professor und Direktor der Medizinischen Klinik der Universität Halle a.d.S. Elfter Band. 1 and 2. Hälfte. Mit 86 zum Teil mehrfarbigen Abbildungen im Text, 4 farbigen und 3 schwarzen Tafeln. Berlin & Wein: Urban & Schwarzenberg.* 1928. *Price geh. RM* 30.—*geb. RM.* 35.—

Volume II, Part I of the above series contains seven articles by authors of distinction, including Max Kappis, Leopold Casper and Hans Runge.

Part 2 of the same volume contains eight articles. These include one by W. Zangemeister on uterus perforation, one by Alb. Heyn on castration in women and one by Hans Aron on the nutritional disturbances in children.

The series of articles in these volumes do not apparently follow any consecutive plan as regards regional or pathologic order.

Burgess: Nurses, Patients and Pocketbooks

NURSES, PATIENTS AND POCKETBOOKS *Report of A Study of the Economics of Nursing Conducted by the Committee on the Grading of Nursing Schools. By May Ayres Burgess, Director. New York City: Author, 370 Seventh Avenue.* 1928. *Price* $2.00.

A large amount of criticism, favorable, unfavorable and otherwise, has been focused on the question of private and hospital nursing and its rising cost.

The present book is a digest of the information collected during the past 18 months by the Committee on the Grading of Nursing Schools, made up of representatives from all the leading nursing and hospital organizations in the United States, as well as some members at large.

First-hand facts regarding nurses of all kinds —student, registered, public health, private duty, occasional and free lance nurses—have been collected and these facts have been digested and tabulated.

The views of nurses themselves, of physicians, of hospital authorities, and, to some extent, of the lay public, on nursing costs, avail-

ability, quality and value are given; and, altogether, it would appear that almost every phase of professional nursing is thoroughly digested.

There are, however, certain social aspects of the question which the book will not sufficiently answer. After all is said and done, it is not the question of the necessity and efficiency of the nurse or whether she is overpaid or underpaid, or whether there is enough of her to go round, that is the main issue. The principal matter is that the average sick individual is not, as a general rule, able to pay, even inadequately, for any ordinary long run of necessary professional nursing, in addition to the other costs of sickness, at a time when his earning capacity is stopped. Of course he should have made provision for sickness, but most people either cannot or will not do the things they ought to do, or only do them inadequately. Nurses are not overpaid—quite the opposite; but the great bulk of the population who need their services most cannot afford to pay. The same of course applies to medical costs in general.

The book will furnish a vast amount of information to every physician and to every one interested in nursing—and who is not?

Jastrow: Mental Hygiene

KEEPING MENTALLY FIT. *A Guide to Everyday Psychology. By Joseph Jastrow, Ph.D., LL.D. New York: Greenberg, Publisher, 112 East 19th St. 1928. Price* $3.50.

Dr. Jastrow, finding that most of the people in this country are "readers for the day,"—the *jour* in jour-nalisms being the French word for a day—has decided to embody the basic truths of mental hygiene in "journalese," and has done a good job of it!

With this end in view, there are no lengthy chapters. The book is divided into ten sections ("Keeping Happy," "Delicate Questions," "The Cult of Beauty," "The Psychology of Sport" are some of the headings), under each of which are grouped from five to ten brief "stories" having "snappy" titles, such as "Curing the Blues," "The Truth About Prodigies," "Do you 'Thob'?", "Why Do You Swear?", "Friday the 13th", "Take a Relaxative", etc. These are written in the manner and language (slang and all) of the sports section of a newspaper, and any one of them can be read in fifteen minutes or less.

In spite of the colloquial tone, the book is full of genuine information and sound sense. Most physicians can read it with great profit, and all of them can recommend it to their patients with the knowledge that they will not be steered into unprofitable or dangerous byways.

Keyes: Urology

UROLOGY. *By Edward L. Keyes, M.D., Ph.D., F.A.C.S., Professor of Urology, Cornell University Medical College; etc. Illustrated. New York & London: D. Appleton and Company.* 1928. *Price* $10.00.

The fifth edition of this well and favorably known textbook has been so thoroughly expanded in some parts, and revised down in others, that it is, to all intents, a new book, presenting all the up-to-date features of modern urologic practice.

The volume, in every sense, is an eminently practical one; the diagnostic and treatment aspects of the various disorders of the urogenital tract are particularly stressed and anatomic, embryonic and other details omitted or else only touched upon to the extent necessary in elucidating the practical recognition and management of urinary tract diseases.

The book has been designed for the practitioner as well as for the student of medicine.

Zucchi: Diathermy

ELEMENTI DI DIATERMIA. *Dott. Gaetano Zucchi. Guida Pratica Illustrata Con 91 Figure in Nero ed a Colori. Ulrico Hoepli, Editore-Libraio Della Real Casa, Milano.* 1928. *Price L.*20.

A monograph on the elements of diathermy considered especially from the point of view of the physical laws underlying its effects. As a practical book it contains nothing that cannot be obtained from American elementary treatises on the subject, but will prove valuable to those who read Italian more easily than they do English.

Ibotson: Partnerships, Combinations and Antagonisms in Diseases

PARTNERSHIPS, COMBINATIONS AND ANTAGONISMS IN DISEASE. *By Edward C. B. Ibotson, M.D. (Lond.), B.S., Fellow Royal Society of Medicine, London. Philadelphia: F. A. Davis Company.* 1929. *Price* $3.50.

The many important scientific developments of the past few decades have, in a great many cases, shattered the older etiologic conceptions of the individuality of diseases. There are few diseases today that are not directly associated with others which have been hitherto regarded as pathologic entities; in some, such an association is fairly evident but the proofs are not so marked, while in others we have only very imperfect knowledge of the associating factors which connect them.

The book under notice treats of these associations between diseases, as well as of corresponding antagonisms. The story is very interesting and touches upon such matters as the doctrine of diatheses, heredity, the symbioses of certain pathogenic agents, the role of ductless glandular dysfunctioning in diseases and their sequelae, and many other similar matters. These, while not, perhaps, of direct clinical importance to the general practitioner, will at least form very interesting reading, and the newer viewpoints opened up will often be of value in elucidating cases that may be entirely obscure as regards the symptoms presented.

Louros & Scheyer: Streptococcal Infections

DIE BEDEUTUNG DES RETIKULOENDOTHELIAL SYSTEMS FÜR DAS STREPTOKOKKENSEPSIS-PROBLEM. *Von Professor Dr. N. Louros und*

Dr. H. E. Scheyer. Unter Mitwirkung von Dr. A. Schmechel und Dr. E. Gaessler. Mit 13 *Abbildungen und 4 farbigen Tafeln. Leipzig: Georg Thieme.* 1928. *Price* 14 M.

Louros and Scheyer, of the Dresden Gynecologic Clinic, in collaboration with Schmechel and Gaessler have made an experimental investigation of the relationship of streptococcal infections to the reticulo-endothelial system. Altogether, 1,500 mouse experiments have been made in this investigation.

A matter inviting attention is that the authors have, not alone considered the question from the bacteriologic infection point of view, but also from the chemical and physical changes within the body.

The findings, as recorded in this monograph, should be of much interest to pathologists who read German.

Forsdike: Sterility in Women

STERILITY IN WOMEN. Diagnosis and Treatment. *By Sidney Forsdike, M.D., B.S. (Lond.), F.R.C.S. (Eng. and Edin.), Surgeon to the Hospital for Women, Soho Square, London: Gynaecological Surgeon to the Kensington, Fulham, and Chelsea Hospital; etc. Illustrated. New York: William Wood & Company.* 1928. *Price* $3.50.

This is an excellent monograph covering all aspects of steriliy in women.

The main part of the book deals with treatment and is based on the author's personal experience in a large number of cases observed, not only in his own private practice, but in the large gynecologic clinics of London. The importance of the newer diagnostic use of lipiodol in determining mechanical causes of sterility located in the fallopian tubes or uterine adnexae is dwelt on at length and may be termed the principal feature of the book.

Apparently, treatment, in the author's hands, has succeeded in obtaining pregnancies in about 15 percent of a general run of sterility cases and, where the sterility was not due to an irreparable condition, the percentage is, of course, much higher.

There are some good illustrations showing inflated and infected uteri and tubes.

Edmunds & Gunn: Cushny's Pharmacology

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS. Or the Action of Drugs in Health and Disease. *By Arthur R. Cushny, M.A., M.D., LL.D., F.R.S. Ninth Edition, Thoroughly Revised by C. W. Edmunds, A.B., M.D., Professor of Materia Medica and Therapeutics in the University of Michigan, Ann Arbor; and G. A. Gunn, M.A., M.D., D.Sc., Professor of Pharmacology in the University of Oxford, Oxford, England. Illustrated. Philadelphia: Lea & Febiger.* 1928. *Price* $6.00.

Professor Cushny's book on pharmacology and therapeutics has, since its first appearance about twenty-five years ago, always been recognized as one of the leading textbooks on this subject.

In the present (ninth) edition, the authors have revised the book to bring it into line with the revised tenth edition of the United States Pharmacopeia, and the opportunity has also been availed of to make such other revisions and additions in the general text as progress demanded.

The authors have succeeded in maintaining the scholarly, critical and conservative spirit that has characterized Professor Cushny's previous editions. If a criticism may be ventured it would be that perhaps some of the newer drugs are dealt with too succinctly. Some of these, which are dismissed with only a line, are the result of the most modern scientific research and extensive biologic and pharmacologic investigation. There is excellent reason why they should replace many of the older drugs which rest on an empiric basis only.

Hollander: Hypnosis

METHODS AND USES OF HYPNOSIS AND SELF-HYPNOSIS. *A Treatise on the Powers of the Subconscious Mind. By Bernard Hollander, M.D., M.R.C.S., L.R.C.P., Corresponding Member of the Royal Academy of Medicine of Madrid. New York: The Macmillan Company.* 1928. *Price* $2.50.

Psychotherapy is now beginning to take the place it deserves as a recognized and reputable form of treatment, but those who know how to use it and have the patience and understanding to do so are few.

In this small volume, Dr. Hollander has given the basic psychologic facts underlying the practice of hypnotism and a brief resume of the methods for inducing the condition of abstraction or somnambulism, with suggestions as to the conditions in which such treatment is likely to be of value.

The main thesis is that, for therapeutic purposes, it is unnecessary to render the patient unconscious. A state of abstraction or "absent-mindedness," which can be induced in most persons without great difficulty, is sufficient for most of the purposes of the physician, the object being to bring into activity the subconscious faculties of the subject.

The book seems to have been written for intelligent laymen, as well as for members of the medical profession, and, for this reason, the descriptions of technic are (very properly) somewhat vague and general. All physicians who are not fully acquainted with the possibilities of psychotherapy in general and of hypnotism in particular, will, however, find the work interesting and of definite, practical value

MEDICAL NEWS

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The Man Who Saved King George's Life

It would appear from the published accounts that the life of England's King was saved by an operation (probably, as near as one can judge, a thoracocentesis for sero-fibrinous pleurisy, performed by **Sir Hugh Rigby,** a well known British surgeon, whose picture is shown above.

Death of Dr. Goldberger

Dr. Joseph Goldberger, U. S. Public Health Service, who has done more to clarify the question of pellagra than was accomplished by all previous workers (in fact, it is probable that he discovered the cause and cure of the disease), died at the Naval Hospital, Washington, D. C., Jan. 17, 1929, the cause of death being hypernephroma.

Another great scientist has passed, a martyr to his humanitarian enthusiasm. Dr. Goldberger had contracted, at various times, while studying them, yellow fever, typhus and dengue. These illnesses had undermined his health.

Postgraduate Medical Assemblies

The Interstate Postgraduate Medical Association offers two assemblies or clinical tours during 1929: One will cover the medical centers of America, beginning at Rochester, Minn., April 15, 1929 (physicians may join the group at Chicago, Apr. 17, or at Cleveland, Apr. 20, at proportionately reduced rates), and arriving back at Chicago, May 9. The total cost of this trip will be about $500, including all necessary expenses.

The European tour will begin with sailing from New York on May 18, 1929; will cover the important foreign medical centers; and will end at New York on July 11, 1929. The total cost will be about $1200.

Full particulars regarding these two very interesting and valuable assemblies may be obtained from Dr. W. B. Peck, Freeport, Ill.

Medical and Pharmaceutical Cooperation

Perhaps one of the outstanding reasons for the progress in the scientific development of new products has been the spirit of cooperation which has existed between the medical profession and the pharmaceutical industry.

By this close cooperation medical science has contributed to pharmaceutical progress and the manufacturing pharmacists of the country, in turn, have made a definite contribution toward the development of new medicinal products.

On Wednesday, December 5, the officials and members of the medical, pharmaceutical and allied professions of Lafayette, Indiana, were addressed by Dr. Charles E. Vanderkleed, Chairman of the Contact Com-

mittee, of the American Pharmaceutical Manufacturers' Association.

The subject of Dr. Vanderkleed's address was "Improvement in the Quality of American Drug Products due to Cooperation in the Industry". It is interesting to see the representatives of the several allied professions making arrangements for a periodic study of mutual interests of a professional nature, with a view to increasing mutual usefulness.

It is only through medical and pharmaceutical cooperation that the greatest advances can be made in conquering disease and improving the health of the American people.

Eat Dessert First

A prominent British hygienist, George F. Buchan, M.D., D.P.H., F.R.C.P., is credited with condemning the American habit of ending meals with a sweet, and with the following recommendation:

"The correct way to finish a meal is with fruit, coffee and a cigarette. The fruit hardens the gums and cleans the teeth; the coffee stimulates the flow of saliva and acts as a mouth wash; while the cigarette disinfects the mouth and soothes the nerves."

Renting Sick-Room Furniture

For some time it has been possible for patients to rent ultraviolet and infrared apparatus, for use during the period of an illness; and now a firm in Chicago is offering to supply in this manner any of the things which may be needed while someone is sick, and not thereafter—fracture beds, invalid chairs, baby scales, breast pumps, or what do you require?

"Hermit Doctor", of Colorado, Passes

An unique character in the medical profession is no more. Dr. B. A. Abrogast, who, for many years, has lived practically the life of a hermit, near Juniper, Colorado, has gone to his reward. He ministered to the sick and suffering in a wild and sparsely inhabited region, visiting his patients on horseback in all weathers, without automobile, telephone, operating room, or bookkeeping system, until almost up to the day of his death, at the age of 84 years.

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Dr. Fitzpatrick Goes to Egypt

Dr. Gilbert Fitzpatrick, of Chicago, is one of the four American delegates appointed by President Coolidge to attend the International Congress of Tropical Medicine and Hygiene, which has been meeting in Cairo, Egypt, this winter. Dr. Fitzpatrick is a Lt. Colonel in the Medical Reserve Corps of the Army.

A.A.A.S. Prize to Dr. Kamm

The American Association for the Advancement of Science has awarded a prize of $1000 to Dr. Oliver Kamm, of the Parke, Davis & Co. laboratories, for his isolation of the Alpha and Beta hormones ("Oxytocin" and "Vasopressin") from the posterior lobe of the pituitary gland.

The Alpha hormone is the substance which expedites delivery in obstetric cases, and is said to cost, at present, in the pure state, $1,000,000 a pound.

The Beta fraction raises blood pressure and prevents dehydration of the body. Its present cost is about one-third of that of

the Alpha fraction. Neither is, as yet, available commercially.

United States Civil Service Examinations

The United States Civil Service Commission announces the following open competitive examinations.

Dietitian,
$1,800 to $2,100 a Year

Applications for the above-named position must be on file with the Civil Service Commission at Washington, D. C., not later than July 1.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or from the secretary of the United States Civil Service Board of Examiners at the post office or custom-house in any city.

The Nobel Prize Awarded for Work on Irradiated Ergosterol

The 1928 Nobel Prize in Chemistry has been awarded to Professor Adolf Windaus, of Göttingen, Germany, for his work in proving that ergosterol, irradiated by ultra-violet rays, is the source of the antirachitic vitamin (Vitamin D).

This is the first time that the Nobel Prize Committee has recognized any of the scientific work done on the problem of human nutrition.

There is likely to be some dispute in regard to this award, as there were several workers on this same problem at the same time and it is not quite admitted that Professor Windaus' work was not inspired by that of others.

Chemistry Medal to Mr. and Mrs. Garvan

The American Institute of Chemists will award its medal "for noteworthy and outstanding service to the science of chemistry in America" to Mr. and Mrs. Francis P. Garvan, of New York.

Mr. Garvan was the organizer and is the president of the Chemical Foundation, and both he and Mrs. Garvan have given largely and unselfishly, of their time, and money, to the advancement of chemistry and chemical education.

At present, the Foundation is financing the intensive researches into the cause of the "common colds", which are being carried on in the Presbyterian Hospital Laboratories, New York, under the direction of Abel, Dochez and others.

New Laws for Drivers of Human Motors

Pull your machine up alongside a filling station regularly three times a day and put into it high-test fuel, such as leafy green vegetables, fresh fruit, milk, dark bread, and real butter. Do not use substitutes—you wouldn't do it with a limousine. This high-test fuel is remarkable in that it builds your automobile as well as puts pep in your motor.

Run your human automobile into the garage each night for eight hours of rest. Remember to turn on the fan by opening windows and getting plenty of fresh air. This will prevent flat tires.

Run your automobile body onto the wash rack daily.

Keep the chewing apparatus clean. Brush it morning and night.

Give your human car plenty of water to prevent a dry radiator.

Visit expert mechanics regularly (the doctor once a year and the dentist at least twice a year.) They can help you overhaul your machine and discover a little knock in the engine before you even hear it.

Put a self-starter on your flesh-and-blood vehicle—that is, remember the main facts about putting pep in your motor every day.

—*Exchange*

Send For This Literature

To assist doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE AND SURGERY, North Chicago, Ill., will gladly forward request for such catalogues, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is to recommend only current literature which meets the standards of this paper as to reliability and adaptability for physicians' use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment or medical supplies. Make use of this department.

N- 2 Your Prestige and Profit. 8-page booklet. The Carroll Dunham Smith Pharmacal Co.

N- 3 Storm Binder and Abdominal Supporter, 4-page folder by Dr. Katherine L. Storm.

N- 5 Ethical Medicinal Specialties. 8-page booklet. A. H. Robins Co.

N- 7 The Cure of Cystitis, Pyelitis and other Inflammatory Conditions of the Urinary Tract. Chicago Pharmaral Co.

N- 17 An Index of Treatment. Burnham Soluble Iodine Co.

N- 20 A Survey of Focal Infection. Fellows Medical Co.

N- 45 Vera-Perles of Sandelwood Comp. Paul Plessner Co.

N- 47 Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company.

N- 49 The Calcreose Detail Man. Maltbie Chemical Co.

N- 50 Outwitting Constipation. Standard Oil Co.

N- 56 Regaining Health. How Science Can Guide You! The Fleischmann Company.

N- 58 The Pharmacology of Cod Liver Oil, Smith, Kline & French Co.

N- 67 The Electro-Pathology of Local Inflammation. The Dionol Company.

N- 85 Ultraviolet for Health. Hanovia Chem. & Mfg. Co.

N- 93 Britesun Therapeutic Booklet. Britesun, Inc.

N- 95 Everything for the Sick—Lindsay Laboratories.

N-103 The Electron, February, 1929, McIntosh Electrical Corporation.

N-112 Atophan after more than Fifteen Years of ever expanding use, etc. Schering & Glatz.

N-113 Forcep Deliveries and Versions. Battle & Co.

N-114 Infra Red Therapy. Britesun, Inc.

N-116 Hemo-Glycogen, The New Product Hemoglobin Compound and Liver Extract. Chappel Bros., Inc.

N-120 Building Resistance. William R. Warner & Co., Ltd.

N-122 Metrazol, a Circulatory and Respiratory Stimulant. E. Bilhuber, Inc.

N-139 How to Save Children from Goiter. Morton Salt Company.

N-156 Siomine (Methenamine Tetraiodide). Pitman-Moore Company.

N-169 The Quartz Lamp, Jan. 15, 1929. Hanovia Chemical & Mfg. Co.

N-176 The Hormone, February—24 pages and cover, published bimonthly. The Harrower Laboratory.

N-189 High Blood Pressure — Treatment with Theocalcin. E. Bilhuber, Inc.

N-194 Fracture Book — 1928 Edition. DePuy Mfg. Co.

N-196 "Facts Worth Knowing". Intravenous Products Co. of America, Inc.

N-197 Bulletin. Illinois Post Graduate Medical School, Inc.

N-198 Book and Portfolio of Letters in Evidence. Philo Burt Co.

N-199 Activin in Non Specific Protein Therapy. Ernst Bischoff Co.

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N-204 News and Views from French Lick. French Lick Springs Hotel.

N-207 The Treatment of Pneumonia with Optochin Base. Merck & Co.

N-209 Liquid Surgical Cast and Adhesive Solution, Aseptic and Water Soluble. The Liquid Cast Co., Inc.

N-211 The Etiology and Treatment of Hay Fever — Hay Fever Antigens. The National Drug Co.

N-217 Focal Infection. Battle & Co.

N-218 Eupinol. A distillate produced at a special temperature from the resinous wood of Pinus Palutris. The Tilden Company.

N-222 Autumn Leaves — Guiatonic. Wm. R. Warner & Co., Inc.

N-226 Nerve and Muscle Regeneration. McIntosh Electrical Corporation.

N-227 The Romance of Digitalis. The Hoffmann-La Roche Chemical Works, Inc.

N-228 Ye Olden Day Cough Physic, The Tale of a Drug which Columbus gave to Isabella. The Hoffmann-La Roche Chemical Works, Inc.

N-230 Thiate, Merrell. Wm. S. Merrell Company.

N-231 The Action and Use of Castor Oil. The Wm. S. Merrell Company.

N-232 Pectoral Balsam, Merrell. Wm. S. Merrell Company.

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N-240 Injection Method of Treating Varicose Veins with Sodium Salicylate. Loeser Laboratory.

N-241 Loeser's Intravenous Solution of Gentian Violet. Loeser Laboratory.

N-242 Announcing a New Preparation, Stronsalin (Keysall). Keysall Pharmacal Company.

N-243 Nichols Nasal Syphon. Negative Pressure. Nichols Nasal Syphon, Inc.

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N-245 A Few Facts Pertinent to the Consideration of Artificial Sources of Ultraviolet Radiations. Victor X-Ray Corporation.

N-246 Electrocoagulation and Ultra-Violet Light as Adjuncts to Surgery. Victor X-Ray Corporation.

N-247 Colitis, A Common and Increasing American Disease. The Battle Creek Food Company.

N-248 Lacto-Dextin, a Special Colon Food for Changing the Intestinal Flora to Combat Autointoxication. The Battle Creek Food Company.

N-249 Diathermy in the Treatment of Pyorrhea and Other Oral Diseases. McIntosh Electrical Corporation.

N-250 Relieve that Pain with Infra Red Rays. McIntosh Electrical Corporation.

N-251 Nasal Dionol. The Dionol Company.

N-252 The Victor Electrocardiograph. Victor X-Ray Corporation.

N-253 The Intravenous Administration of Dextrose (d-Glucose). Loeser Laboratory.

N-254 The Intravenous Administration of Antimony Potassium Tartrate (Tartar Emetic). Loeser Laboratory.

N-255 Mellin's Food Biscuits. Mellin's Food Co.

N-256 The Modern Way of Giving Digitalis. Upsher Smith Co.

N-257 Cilkloid. The Cilkloid Company.

N-258 Prophylaxis. August E. Drucker.

N-259 Diathermy — Definition, History, Application. Bleadon-Dun Co.

N-260 The New Method of Treating Hypertonus and Arteriosclerosis. Animasa Corporation.

N-261 Effervescent Alkalithia as the Ideal Eliminant, "The Renal Purge". Keasbey & Mattison.

N-262 Journal of Intravenous Therapy, January, 1929. Loeser Laboratory.